United States Environmental Protection Agency
Region 10, Office of Air, Waste and Toxics
AWT-107
1200 Sixth Avenue
Seattle, Washington 98101

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AFS Plant I.D. Number: 16-009-00018

Statement of Basis
Title V Air Quality Operating Permit

Permit Writer: Pat Nair

Plummer Forest Products, Inc.

Coeur d'Alene Indian Reservation
Plummer, Idaho

Purpose of Permit and Statement of Basis

Title 40 Code of Federal Regulations Part 71 establishes a comprehensive air quality operating permit program under the authority of Title V of the 1990 amendments to the federal Clean Air Act. The air quality operating permit is an enforceable compilation of all of the applicable air pollution requirements that apply to an existing affected air emissions source. The permit is developed via a public process, may contain additional new requirements to improve monitoring of existing requirements, and contains procedural and prohibitory requirements related to the permit program itself. The permit is valid for 5 years and may be renewed.

This document, the statement of basis, summarizes the legal and factual basis for the permit conditions in the air quality operating permit to be issued to Plummer Forest Products, Inc. (referred to herein as PFP, facility, source, or permittee). Unlike the air quality operating permit, this document is not legally enforceable. This statement of basis summarizes the emitting processes at the facility, air emissions, permitting and compliance history, the statutory or regulatory provisions that relate to the subject facility, and the steps taken to provide opportunities for public review of the permit. The permittee is obligated to follow the terms of the permit. Any errors or omissions in the summaries provided here do not excuse the permittee from the requirements of the permit.

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Abbreviations and Acronyms

bdft	Board foot (one "board foot" equals lumber that is 12 inches by 12 inches by 1 inch)
Btu	British thermal units
°C	Celsius degrees
CAA	Clean Air Act [42 U.S.C. section 7401 et seq.]
CAM	Compliance assurance monitoring
CFR	Code of Federal Regulations
CO	Carbon monoxide
EPA	United States Environmental Protection Agency (also U.S. EPA)
FARR	Federal Air Rules for Reservations
FR	Federal Register
gal	Gallon
gr/dscf	Grains per dry standard cubic foot (7,000 grains = 1 pound)
HAP	Hazardous air pollutant
hp	Horsepower
hr	Hour
°K	Kelvin degrees
kg	Kilogram
kPa	KiloPascal
lb	Pound
LPG	Liquified Petroleum Gas
M	One thousand
MACT	Maximum Achievable Control Technology
Mg	Megagram
MM	One million
mo	Month
MSDS	Material safety data sheet
Msf	Thousand square feet
ng/J	Nanograms per joule
NESHAP	National Emission Standards for Hazardous Air Pollutants (Title 40 CFR Parts 61 and 63)
NOx	Nitrogen oxides
NSPS	New Source Performance Standard (Title 40 CFR Part 60)
NSR	New source review
ODEQ	Oregon Department of Environmental Quality
PAL	Plantwide Applicability Limitation
PM	Particulate matter
PM2.5	Particulate matter less than or equal to 2.5 microns in aerodynamic diameter
PM10	Particulate matter less than or equal to 10 microns in aerodynamic diameter
ppm	Parts per million
PSD	Prevention of significant deterioration
psia	Pounds per square inch absolute
PTE	Potential to emit
SO_2	Sulfur dioxide
tpy	Tons per year
VMT	Vehicle miles traveled
VOC	Volatile organic compound
VOL	Volatile organic liquid

1. EPA Authority to Issue Title V Permits

On July 1, 1996, EPA adopted regulations (61 FR 34202) codified at 40 CFR Part 71 setting forth the procedures and terms under which the Agency would administer a federal operating permit program. These regulations were updated on February 19, 1999 (64 FR 8247) to incorporate EPA's approach for issuing federal operating permits to affected stationary sources in Indian Country.

As described in 40 CFR 71.4(a), EPA will implement a Part 71 program in areas where a state, local, or Tribal agency has not developed an approved Part 70 program. Unlike states, Indian Tribes are not required to develop operating permit programs, though EPA encourages Tribes to do so. See, for example, Indian Tribes: Air Quality Planning and Management (63 FR 7253, February 12, 1998) (also known as the "Tribal Authority Rule"). Therefore, within Indian Country, EPA will administer and enforce a Part 71 federal operating permit program for stationary sources until the governing Indian Tribe receives EPA's approval to administer its own operating permit program.

2. The Coeur d'Alene Indian Reservation

The Plummer Forest Products facility is located on the Coeur d'Alene Indian Reservation in northern Idaho. The Coeur d'Alene Indian Reservation was established by Executive Order in 1873. By a series of treaty agreements, the reservation was reduced to its present size of approximately 345,000 acres. The reservation is considered to be Indian Country, as defined in 40 CFR Part 71.

The Tribe is organized under a Constitution approved by the Bureau of Indian Affairs. The Constitution provides for a seven-member tribal council to serve as the governing body of the Tribe.

Reservation:	Coeur d'Alene Indian Reservation P.O. Box 408, 850 A Street Plummer, Idaho, 83851-0408
Tribal Leader:	Chief Allan, Tribal Chairman
Tribal Contacts:	Alfred Nomee, Natural Resources Director Phone: 208-686-1009, Fax: 208-686-8600 Email: amnomee@cdatribe-nsn.gov Les Higgins, Air Quality Manager Phone: 208-686-8101, Fax: 208-686-8302 Email: lhiggins@cdatribe-nsn.gov

3. Facility Information

The facility is owned by the Tribe, but is operated by Plummer Forest Products under a leasing arrangement.

3.1 Location

The PFP facility is located south of Plummer, Idaho, and west of Highway 95. The facility is within the boundaries of Benewah County and the Coeur d'Alene Indian Reservation.

3.2 Local Air Quality and Attainment Status

Northern Idaho, including the Coeur d'Alene Indian Reservation, either attains the national ambient air quality standards for all criteria pollutants or is unclassifiable. An area is unclassifiable when there is insufficient monitoring data. The only monitoring data for the Coeur d'Alene Reservation is based on PM10 and PM2.5 monitors which are operated nearby, in Plummer, just NE of the facility. Data from these monitors indicates both daily and annual averages below the standards for particulate.

3.3 General Description of Operations and Products

The primary operation at the facility is the production of dimensional lumber from raw logs. The PFP facility has debarkers and saws, kilns for drying lumber, a planer, a wood chipper, a bark hog, various storage bins, a hog fuel-fired boiler (to supply steam to the kilns) and an oil-fired boiler. The site includes a log yard, shops, offices, and open and covered storage areas. There are no chemical wood preservative or gluing operations. Logs are received and stored in the log yard. The process of cutting the logs into lumber includes debarking, sawing, chipping, kiln drying, planing, and packaging for shipping.

The byproducts of lumber manufacturing are sawdust, wood chips, planer shavings, and hog fuel. These byproducts may be burned in the hog fuel (wood-waste) boilers or stored in bins until the material is sold and transferred off-site. The hog fuel boiler is used to provide steam to generate electricity and for the drying of rough green lumber in the drying kilns; however, the oil-fired boiler can be used to provide steam in case the hog fuel boiler is down. Prior to steam use in the kilns, the steam is used to produce electricity in a steam turbine-powered 5-megawatt capacity generator. The electricity produced is primarily used on-site, but is also sold to the regional power grid.

SIC Code(s): 2421 Sawmills and Planing Mills, General (primary)
4911 Electric Services, Electric Power Generation

Note that while two SIC codes are listed, the sawmill and planing mill SIC code of 2421 is considered the primary code. Since most of the electrical power generated (SIC code 4911) onsite is used for powering the facility, these activities are considered to be support activities to the sawmill.

3.4 Emission Units and Emission Generating Activities

Table 3-1 lists and describes the emission units and control devices at the facility. Those control devices that are required by rule or this permit are so noted.

40 CFR 71.5 (c)(11)(ii)(A) and (B) allow sources to separately list in the permit application such units or activities that qualify as "insignificant" (referred to as insignificant emission units (IEUs)). An emission unit or activity qualifies as an IEU if it is in an identified source category or if its potential emissions are below two tons/year for all regulated pollutants that are not listed as hazardous air pollutants ("HAP") under Section 112(b) and below 1000 lbs/year or the de minimis level established under Section 112(g), whichever is lower, for HAPs. However, a Title V permit application may not omit information needed to determine the applicability of, or to impose, any applicable requirement, or to calculate the permit fee. In addition, activities or emission units that qualify as IEUs for the purpose of the Title V permit application are in no way exempt from applicable requirements or any requirements of the Title V permit.

PFP requested that sawdust conveying and handling fugitives and ash handling fugitives be treated as IEUs. However, since both of these activities are part of specific emission units (SAW and BLR-1, respectively) these activities do not qualify as IEUs.

Table 3-1
Emission Units (EU) & Control Devices

EU ID #	Emission Unit Description	Control Device
BLR-1	Riley R-X-1, Serial No. 2771, hog fuel-fired boiler (including ash handling fugitives); 70,000 lb/hr steam output capacity, 105 MMBtu/hr. heat input capacity; manufactured 1951, installed at PFP 1983.	Joy multiclone, Yanke wet scrubber.
BLR-2	York-Shipley, Model SPH400-6-FAH-57-6109, oil-fired boiler; 13,800 lb/hr steam output capacity, 14 MMBtu/hr heat input capacity; back up boiler; manufactured 1973, installed at PFP 2002.	None.
KLN	Lumber drying kilns: Indirectly heated; field-erected, annual capacity = 109,200 Mbdft.	None.
SAW	Sawmill Operations: Includes log debarking, indoor bark transport, log sawing, sawdust conveying and handling, chipper, and chip conveying and handling; annual capacity = 109,200 Mbdft of logs, or 393,000 dry tons of logs.	Inside building
HOG	Hogging of bark as well as outdoor transport of bark; annual capacity 80,000 tons/year (estimated based on log throughput).	None
BINS	Loading and unloading of truck bins: chip truck bins - annual capacity 91,728 tons/year. Sawdust truck bins - annual capacity 21,840 tons/year. Shavings truck bins - annual capacity 10,920 tons/year. All throughputs based on log throughput.	None
PLN	Planer Mill; includes planer shavings cyclone and the planer chipper cyclone; annual capacity 109,200 Mbdft/year.	None
HTR-1	Clean Burn 4000, used oil-fired heater; 280,000 Btu/hr.	None
LY	Log Yard and Plant Traffic (paved and unpaved): fugitive emissions from Log handling and storage activities, frontloaders and log trucks.	Work practices
PILES	Piles and handling; bark fuel pile, sawdust pile, shavings pile; drop onto pile, wind erosion of piles.	None
TNK	Diesel (8000 gallon) and gasoline (200 gallon) fuel tanks, horizontal.	Under cover
GRN	Green lumber stacking area; awaiting loading into kilns.	None

3.5 Permitting, Construction and Compliance History

The subject facility was built in the 1960's as a planer mill only. The sawmill was added in the 1970's. In October 1983, the Riley boiler and electrical generator were added. The sawmill was operated by Pacific Crown and the co-generation plant (i.e. boiler and electrical generator) were operated by Wood Power.

In August 1982, Wood Power had applied to the Idaho Department of Health and Welfare (IDHW) for a Permit to Construct (Idaho Department of Environmental Quality (IDEQ) was previously a Division of IDHW). On September 29, 1982, Wood Power received a two-page Permit to Construct.

In 1995, the Pacific Crown facility was sold to ITT Rayonier. On August 16, 1996, Rayonier submitted a Permit to Construct application to IDHW to replace three direct contact kilns with three non-contact lumber drying kilns. This would allow the facility to dry all of their lumber instead of selling green lumber. IDHW issued the facility a Director's Exemption instead of a Permit to Construct.

In 1997, the co-generation plant was also sold to ITT Rayonier. The sawmill burned down in 1998, but the planer mill continued to operate. On September 21, 1999, the entire facility was sold to the Coeur d'Alene Tribe, and in May 2000, PFP leased the facility from the Tribe. After rebuilding the sawmill with mostly new equipment, the sawmill started up in June 2001. The co-generation equipment was started up in September 2001. For about four months (June through September 2001), temporary power generators were used to supply power to the sawmill. The temporary power generators were removed in October 2001. An oil-fired package boiler (originally built in 1973) was installed in April 2002.

It is EPA's position that unless EPA has explicitly approved a program as applying in Indian Country, State or local regulations are not effective within the boundaries of that Indian Country land for purposes of complying with the Clean Air Act. See Federal Operating Permits Program Final Rule, 64 FR 8247, 8254 (February 19, 1999). This would include permits issued under State or local regulations. EPA therefore does not consider any permits issued by Idaho to the PFP facility or its predecessors to be federally enforceable or to establish applicable requirements for purposes of the Clean Air Act.

EPA inspected PFP on September 10, 2003. There is no record of any violations issued to PFP by EPA. There are no existing PSD permits issued to PFP.

4. Emission Inventories and Fee Payment

4.1 Emission Inventory for PFP

PFP submitted emission inventories of actual and PTE emissions with its original Title V permit application. PFP has since supplemented and revised the emission inventory in a subsequent submittal to reflect facility changes and to respond to EPA's initial questions. PFP also submitted an actual emission inventory to support its annual fee payments. EPA reviewed PFP's source lists and emission inventory in connection with drafting the permit. In some instances, EPA revised the emission estimates provided by PFP in their application and subsequent submittal to more accurately reflect the emissions from the facility. This section describes emission estimating techniques for the PFP facility relied on by EPA in preparing the draft permit.

It is EPA's expectation that PFP will use the emission estimating techniques set forth in this section unless PFP has other information showing why another technique more accurately represents its emissions. It is important to emphasize that to the extent PFP relies on any type of emission control technique (e.g. road watering or sweeping, pile enclosures, etc) to estimate emissions used to determine annual fees or the applicability of a regulatory program, use of the technique must be fully documented and verifiable. Note that some boiler emission factors may be revised after emission testing is performed as required in this permit.

Equation 5-1 represents the basic technique for estimating emissions (in tons per year) from all emission units at the facility. The equation relies on an emission factor and an operational parameter that is multiplied by the emission factor. PFP will need to track the relevant operational parameters in order to derive its actual and potential emissions. The emission factors used in the estimates are presented for each pollutant emitted and each emission unit in Appendix B. Note that these emission factors may be improved over time. Note also that the techniques presented are generally appropriate for estimating actual as well as potential emissions; however, actual emissions reflect actual operational data whereas potential emissions reflect the maximum operations or capacity of the emission unit. As discussed in Appendix A, actual emissions are reported annually for both Title V and the Federal Air Rules for Reservations (FARR), and form the basis for calculating fees, while potential emissions are generally used to determine the applicability of air pollution control requirements and programs.

$E = EF \times OP \times K$ (Equation 5-1)

Where:

E = pollutant emissions in tons/year

EF = emission factor (see Appendix B)

OP = recorded actual annual operational parameter

K = 1 ton/2000 lbs for conversion from pounds per year to tons per year

The emission factors for paved and unpaved roads must be calculated using site-specific information. See the reference documents for those estimation techniques (cited in Appendix B) for a more complete description. For those estimation techniques that require substantial site-specific parameter tracking, such as piles and roads, emissions associated with a defined operational rate (amount of logs processed or plywood produced in a year) can be estimated to establish a set ratio that can be used to multiply by the actual operational rate in future years, significantly simplifying the annual inventory effort. All of the techniques and site-specific parameters and assumptions should be reviewed each year before estimating emissions to be sure they remain appropriate.

Emission factors for the boilers are based on heat input (fuel) to the boiler. If steam production records are used to calculate boiler heat input (firing rate) for the purpose of emission inventory, then the conversion factor applied to convert steam production to heat input must be based on the latest site specific boiler tuning data or a default efficiency factor that is acceptable to EPA. The permit requires fuel analyses to calculate a site-specific hydrogen chloride PTE.

4.2 Potential to Emit (PTE) for PFP

The potential to emit (PTE) air pollutants for a facility is used to determine applicability to several EPA programs, including Title V, PSD and Section 112. PFP's PTE is based on information in their original application (and in several supplementary submittals) and on EPA's review of PFP's emission inventories. A summary of PFP's PTE is presented below in Table 4-1 and reflects the emission factors presented in the emission inventory (see Appendix B). PTE means the maximum capacity of PFP to emit any air pollutant (criteria or HAPs) under its physical and operational design. Any physical or operational limitation on the maximum capacity of PFP to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, may be treated as part of its design if the limitation or the effect it would have on emissions is enforceable by EPA. PTE is meant to be a worst case emission calculation and is used in many, though not all, cases to determine the applicability of federal requirements.

For this facility, several operational practices or circumstances contribute to lower the PTE for certain emission units. To the extent that these practices or circumstances are practically enforceable, they are accounted for in the PTE calculations. For the hog fuel-fired boiler, the multiclone and wet scrubber are necessary to remain in compliance with both the visible emission and particulate matter emission standards of the FARR. The permit contains enforceable provisions to require the use of both these control technologies whenever the boiler is in operation. As a result, the emission inventory reflects the operation of both controls in determining the boiler's PTE. In addition, the diesel and gasoline tanks location under a roofed structure was accounted for in determining their PTE. Because of the structure roof, solar energy striking the tanks is less than if the tanks were located in the open. Consequently, the tanks were treated as white tanks with paint in good condition, as an estimate of reduced heat gain into the tanks.

Actual emissions may be much lower than PTE. For example, all of the emission estimates in Table 4-1 are based on 24-hours per day operation of the facility whereas the PFP facility does not normally operate 24 hours per day.

PFP PTE estimates for the kilns are based on reported maximum kiln throughput of 109 million board feet per year. PTE point source estimates for the pneumatic conveying systems are based on maximum mill throughput of 393,000 tons of logs processed per year. PTE estimates for the boilers are based on maximum design heat input capacity. The PTE table shows the total HAPs as well the HCl emissions because HCl is the largest individual HAP. Showing both values is helpful because major HAP source applicability thresholds exist for both total HAPs and the largest single HAP emitted.

Table 4-1
Facility Potential to Emit for PSD, Title V, and Section 112 in Tons per Year

	Air Pollutants[1] NOx - oxides of nitrogen; VOC - volatile organic compounds; SO2 - sulfur dioxide; PM - particulate matter; PM10 - particulate matter with diameter 10 microns or less; CO - carbon monoxide; HAP - hazardous air pollutants [see Clean Air Act, Section 112(b)]								
EU ID #	**CO**	**Lead**	**NOx**	**PM**	**PM10**	**SO2**	**VOC**	**HAP**	**HCl**
BLR-1	276	<1	101	30	38	12	8	18	9
BLR-2	2	<1	9	1	1	31	<1	<1	<1
KLN				3	3		35	3	
SAW				81	40				
HOG				4	2				
BINS				9	4				
PILES				<1	<1				
PLN				17	2				
HTR-1	<1	<1	<1	<1	<1	<1	<1	1	<1
TNK							<1		
GRN							<1		
LY				196	56				
TOTAL	278	<1	110	340	146	43	43	24.5[2]	9.5[2]

[1] Emissions for each emission unit and for totals have been rounded to the nearest ton per year

[2] Emission limits assumed to avoid status as major source of HAPs and MACT applicability

4.3 Fee Payments Based on Actual Annual Emissions

PFP is required to pay fees annually based on an emissions inventory of its actual emissions for the preceding calendar year (see Permit Conditions 3.13 through 3.23, and Permit Condition 4.1). As discussed above, EPA has documented methods, techniques, and assumptions that EPA believes provide the most accurate basis for estimating emissions from the facility, including actual emissions for fee purposes and for emission reporting under the FARR. The techniques in Appendix B should be used to calculate annual emissions for fee purposes and for emission reporting under the FARR, unless PFP has other information showing why another technique more accurately represents its emissions. Note that the actual emission estimates differ from the plant PTE because actual emission estimates reflect actual operations and emissions for a particular year and are determined in accordance with 40 CFR 71.9(c).

EPA notes that PFP has an ongoing obligation to assure that all data in its application is correct and to notify EPA of any errors or omissions. Moreover, PFP is required to certify to the accuracy and completeness of all data submitted to EPA, including the accuracy of its annual emission inventory for fee purposes.

5. Regulatory Analysis and Permit Content

EPA is required by 40 CFR Part 71 to include in this Title V permit all emission limitations and standards that apply to the facility, including operational, monitoring, testing, recordkeeping and reporting requirements necessary to assure compliance. This section explains which air quality regulations apply to this facility and how those requirements are addressed in the permit.

A facility, or source, located in Indian Country may be subject to federal or tribal air quality regulations, but, as discussed above, is not subject to state air quality regulations. EPA therefore does not consider any permits issued by Idaho to the PFP facility or its predecessors to be federally enforceable or to establish applicable requirements. In addition, for air quality programs, the Coeur d'Alene Tribe has not gone through the process of obtaining authorization to be treated in the same manner as States under 40 CFR §§ 49.6 and 49.7 (the Tribal Authority Rule) and obtaining approval of air quality regulations as a "Tribal Implementation Plan." Therefore, any Tribal regulations are not federally enforceable, do not meet the definition of "applicable requirement" under 40 CFR Part 71, and are not included in PFP's Title V permit.

EPA relied on information provided in PFP's Title V permit application, and on supplementary information provided by PFP's environmental consultant from February 23, 2005 to June 3, 2005 to determine the requirements that are applicable to the PFP facility. Each section of the permit is discussed below, providing the legal and factual basis for the requirements included in the permit. The permit is organized into 11 sections as follow:

Permit Section 1:	Source Information
Permit Section 2:	Standard Terms and Conditions
Permit Section 3:	Generally Applicable Requirements
Permit Section 4:	Facility-Specific Requirements
Permit Section 5:	Emission Unit BLR-1 – Hog Fuel-fired Boiler
Permit Section 6:	Emission Unit BLR-2 – Oil-fired Boiler
Permit Section 7:	Emission Unit KLN – Drying Kilns
Permit Section 8:	Emission Unit SAW – Sawmill
Permit Section 9:	Emission Unit BINS – Chip, Sawdust and Shavings Truck Bins
Permit Section 10:	Emission Unit PLN – Planer Mill
Permit Section 11:	Emission Unit HTR-1 – Used Oil Heater

5.1 Section 1 – Source Information

This permit section contains a listing of the facility classification as well as a summary description of emission units at the facility.

5.2 Permit Section 2 – Standard Terms and Conditions

This permit section includes generic compliance terms that are required in all Title V permits. The permittee does not need to annually certify compliance (see Permit Conditions 3.4 and 3.5) with the provisions in this permit section. However, consistent with Permit Condition 3.5.2, if a permittee is aware of any information that indicates noncompliance, that information must be included in the annual compliance certification.

Of particular note, Permit Conditions 2.4 and 2.5 address a general permit shield which states that compliance with the permit is deemed compliance with the applicable requirements listed in the permit. PFP did not request a specific permit shield for any specific requirement excluded from this permit and none is being granted. PFP is responsible for complying with any applicable requirements that exist but have not been included in the permit.

Permit Conditions 2.16 through 2.20 address the expiration of the permit and the actions by PFP that are necessary to renew the permit. It is important to note that, if PFP does not submit a complete and timely renewal application, PFP's right to operate is terminated.

5.3 Permit Section 3 – Generally Applicable Requirements

This permit section also includes compliance terms that are required in all Title V permits. For the permit conditions contained in this permit section, the permittee must annually certify compliance (see Permit Conditions 3.4 and 3.5) with the provisions in this permit section.

Forms for the annual compliance certifications may be obtained on the internet at: http://www.epa.gov/air/oaqps/permits/p71forms.html.

This permit section includes requirements for payment of fees and for submittal of an annual emission inventory. Permit Condition 3.13 specifies the specific date by which PFP must pay their fees each year. Note that the per-ton fee rate varies each year so the permittee should contact EPA to obtain the current rate. This permit section also includes the requirement to submit an inventory of PFP's actual emissions each year. The submittal of emission inventories is timed to coincide with the payment of fees because the annual fees are based on the actual emissions emitted each year.

In early 2005, EPA promulgated a Federal Implementation Plan (FIP) for Reservations in Idaho, Oregon and Washington. This FIP is commonly referred to as the Federal Air Rules for Reservations (FARR). The FARR provisions that apply on the Coeur d'Alene Reservation are codified at 40 CFR § 49.9926. The provisions of the FARR that apply to the permittee have been included in the permit, as discussed below.

One of the rules in the FARR requires the permittee to submit an annual emissions report. These requirements have been included in the permit (see Permit Conditions 3.24 through 3.26). Although the annual emissions report for the FARR is slightly different than the Part 71 emission inventory requirement, Permit Condition 3.26 allows for a single combined report, provided that the combined report clearly identifies the different sections.

This permit section includes compliance terms that apply facility-wide, and contains permit conditions setting forth the following requirements of the FARR:

- Open Burning (see Permit Conditions 3.27 through 3.32);
- Limits on Visible Emissions (see Permit Conditions 3.33 through 3.35); and
- Limits on Fugitive Emissions of Particulate Matter (see Permit Conditions 3.36 through 3.41).

Because this facility does not use (and is not required to use) continuous opacity monitors (COMs) to monitor visible emissions, FARR requirements pertaining to COMs (see 40 CFR §§ 49.124(d)(3) and (e)(2)) have been omitted from the permit. The compliance requirements for the open burning rules are included in this permit section. However, as testing, monitoring, recordkeeping and reporting for assuring compliance with the visible emission and fugitive emission rules can change based on the emission unit in

question, the testing, monitoring, recordkeeping and reporting requirements are contained in Section 4 – Facility-Specific Requirements, and in each emission unit-specific section, as appropriate.

The reference method for determining visible emissions under 40 CFR 49.124(d) (see Permit Conditions 3.33 through 3.35) is Method 9. Method 9 includes specific guidance for reading opacity when there is a wet plume (both attached and detached). Specifically, Method 9 directs the reader to take readings excluding the steam plume. So, in the vast majority of cases, the likelihood of exceeding the 20% opacity limit due to the presence of uncombined water is very low. However, there are meteorological conditions that can prevent uncombined water (droplets) from completely evaporating in a plume (e.g., 100% relative humidity and a saturated plume). While an experienced smoke reader would know that he/she should not take a reading under these conditions, if one was made, this provision would provide an opportunity for a source to submit a demonstration that the only reason the opacity reading exceeded the 20% opacity limit was due to uncombined water in the plume.

Permit Conditions 3.42 through 3.51 specify the procedures that must be followed whenever the permit requires emissions testing or sampling in an emission unit-specific section of the permit. If there is a conflict between these permit conditions and an emission unit-specific permit condition, the specific permit condition should be followed. Specific sampling is required in Permit Condition 4.12 and specific testing is required in Permit Section 5. When performing the sampling/testing required by specific permit sections, a test plan is required as specified in Permit Condition 3.44.

Permit Condition 3.48 gap-fills applicable requirements that are concentration-based emission limits and are based on a specific oxygen concentration. These applicable requirements do not contain a protocol to convert measured pollutant concentrations at a measured oxygen concentration to a pollutant concentration at a specific oxygen concentration. Permit Condition 3.48 provides such a protocol.

Permit Conditions 3.52 and 3.53 describe general recordkeeping that must be performed in addition to the recordkeeping required in any emission unit-specific permit condition of the permit. Note that Title V requires records be retained for 5 years, as do various other programs, such as the FARR. These two requirements have been combined (streamlined) here with the strictest requirement (5 years) as the permit term. If there is a conflict between these permit conditions and an emission unit-specific permit condition, the specific permit condition should be followed.

Permit Conditions 3.54 through 3.59 describe general reporting that must be performed in addition to the reporting required in any emission unit-specific section of the permit. If there is a conflict between these permit conditions and an emission unit-specific permit condition, the emission unit-specific permit condition should be followed. Two important requirements are found in this permit section: deviation and semiannual reporting and document certifications. Note that failure to meet any permit term or permit condition, including emission standards, is considered a deviation. Determinations of deviations, continuous or intermittent compliance status, or violations of the permit are not limited to the testing or monitoring methods required by the underlying regulations or this permit; other credible evidence (including any evidence admissible under the Federal Rules of Evidence) must be considered by the source and EPA in such determinations. The timing for reporting deviations, as well as other data collected, depends on the circumstances, as explained in these permit conditions. As specified in Permit Condition 2.13, all documents submitted or reported to EPA must be certified to be truthful, accurate and complete by the facility responsible official. Forms for deviation reporting, semiannual reporting and document certification may be obtained on the internet at: http://www.epa.gov/air/oaqps/permits/p71forms.html.

Permit Conditions 3.60 through 3.63 address other limits and work practices that may apply to PFP. More specifically, Permit Condition 3.60 summarizes the applicability deadlines for the Chemical Accident Prevention Program - 40 CFR Part 68. The Chemical Accident Prevention Program requires sources that

use or store regulated substances above a certain threshold to develop plans to prevent accidental releases. Based on information in their application, PFP has no regulated substances above the threshold quantities in this rule and therefore is not currently subject to the requirement to develop and submit a risk management plan. However, this requirement is included in the permit as an applicable requirement because PFP has an ongoing responsibility to submit a risk management plan if a substance is listed that PFP has in quantities over the threshold amount or if PFP ever increases the amount of any regulated substance above the threshold quantity. Including this term in the permit minimizes the need to reopen the permit if PFP becomes subject to the requirement to submit a risk management plan. Note that distillate fuel stored on-site is not subject to Part 68 risk management plan requirements (See 40 CFR § 68.126).

Permit Conditions 3.61 and 3.62 address the Stratospheric Ozone and Climate Protection Program - 40 CFR Part 82. The Stratospheric Ozone and Climate Protection program requires sources that handle regulated materials to meet certain procedural and certification requirements. PFP has equipment that use or contain chlorofluorocarbons (CFCs) and other materials regulated under this program. All air conditioning and refrigeration units must be maintained by certified individuals.

Permit Condition 3.63 addresses one facet of the NESHAP Program - 40 CFR Part 61, Subpart M - Demolition or Renovation Activity. The asbestos demolition and renovation program requires sources that handle asbestos-containing materials to follow specific procedures. PFP is not currently engaged in the activities regulated under this provision; however, if PFP conducts any demolition or renovation activity, PFP must assure that the project is in compliance with the federal rules governing asbestos including the requirement to conduct an inspection for the presence of asbestos. This requirement is in the permit to address any demolition or renovation activity at the facility.

5.4 Permit Section 4 – Facility-Specific Requirements

This permit section includes applicable requirements and related testing, monitoring, recordkeeping and reporting that apply either to multiple emission units or on a facility-wide basis, including permit conditions setting forth the requirements of the FARR discussed below. For the permit conditions contained in this permit section, the permittee must annually certify compliance (see Permit Conditions 3.4 and 3.5).

Permit Conditions 4.1 through 4.5 implement one of the FARR rules – 40 CFR 49.130 - Limits on Sulfur in Fuels. Language was added to Permit Condition 4.4.1 to clarify that in the case of batch deliveries of gaseous fuel (e.g. propane) vendor records would be required for each delivery.

Permit Conditions 4.6 through 4.13 specify the requirements for a Plant Walkthrough – a monthly regimen to monitor for visible emissions and/or fugitive emissions in order to demonstrate compliance with 40 CFR 49.124 - Limits on Visible Emissions and 40 CFR 49.126 - Limits on Fugitive Emissions of Particulate Matter. These permit conditions implement the periodic monitoring requirements of the Title V program. Initially, the permittee is required to conduct a quick surveillance for evidence of visible emissions and/or fugitive emissions (Permit Condition 4.6). If either visible emissions or fugitive emissions are identified, the permittee is required to investigate the cause of the emissions and to take corrective action (Permit Condition 4.7). Permit Condition 4.8 requires the permittee to conduct a visible emissions observation using Reference Method 9 if the visible or fugitive emissions are not corrected. If a violation has occurred (i.e. if the observation conducted indicates opacity is in excess of 20%) Permit Condition 4.9 specifies daily Reference Method 9 visual observations until such time as two consecutive daily observations indicate that opacity is 20% or lower. In instances where the visual observation required by Permit Condition 4.89 indicates opacity no greater than 20%, the permittee is required to conduct three weekly Reference Method 9 visual observations. All observed violations must be reported pursuant to Permit Conditions 3.55 through 3.58, and 4.12. In addition, the permittee is required to maintain records on details of each visible emissions observation and any investigations or corrective actions. These Plant Walkthrough requirements do not apply to the stack of the hog fuel-fired boiler (EU

BLR-1) because that emission point is expected to operate with some level of visible emissions. Consequently this emission point has a separate set of requirements to address visible emissions.

Permit Conditions 4.14 through 4.18 specify emission limits and requirements to sample the hog fuel and the used oil combusted in the space heater (EU HTR-1) for chloride content. With a few exceptions, MACT standards promulgated under 40 CFR Part 63 apply to "major sources" of HAP. Section 112(a)(1) and 40 CFR 63.2 define a "major source" as a stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls in the aggregate, 10 tons per year or more of any HAP or 25 tons per year or more of any combination of HAP. There are at least two MACT standards that would be applicable to PFP operations if the facility is major for HAP: Subparts DDDDD (Industrial, Commercial and Institutional Boilers and Process Heaters) and DDDD (Plywood Mills including lumber kilns). The compliance dates for these MACT standards are 9/13/2007 and 10/1/2007 respectively.

Based on information provided by PFP, EPA estimates that total potential HAP emissions from PFP are approximately 22 tons per year, and potential emissions of hydrogen chloride are over 9 tons per year. These potential emissions are very close to the thresholds that determine applicability of Subparts DDDDD and DDDD. The emission factors used to estimate these potential emissions are generic, average emission factors. In particular, the chloride content of the used oil is an estimated value. It is possible, therefore, that PFP is a major source of HAPs.

To ensure that the facility is not subject to the MACTs, the permittee has opted to assume emission limits for total HAPs (24.5 tons per year) and for hydrogen chloride (9.5 tons per year) in order to be a synthetic minor for HAPs. Pursuant to the periodic monitoring rule, PFP is required to annually monitor the chloride content of the used oil and hog fuels. The testing is specified to be conducted in October or November as it allows for PFP to collect used oil over the summer and so have a somewhat homogenized fuel source. The results of the analyses can be used to develop emission factors that can then be used to show that actual emissions of HAPs and hydrogen chloride are below the emission limits, on a rolling 12-month basis.

5.5 Permit Section 5 – Emission Unit BLR-1 – Hog Fuel-fired Boiler

The Riley hog fuel-fired boiler was originally constructed in 1951. It was installed at PFP in 1983. According to PFP, this boiler has not been modified or reconstructed since.

The Riley boiler is potentially subject to four types of applicable requirements: (1) NSPS, (2) FARR requirements, (3) CAM and (4) PSD requirements. Periodic monitoring requirements have been added to ensure compliance with the FARR requirements, as described below. The PSD issues are addressed in Section 5.13

NSPS – 40 CFR Part 60, Subpart Db and A: NSPS Subpart Db applies to industrial-commercial-institutional steam generating units greater than 100 MMBtu/hr design heat input capacity that were built or modified after June 19, 1984. As noted earlier, the applicant has indicated that since installation at PFP in 1983, the boiler has not been modified or reconstructed. Since the construction date is before the NSPS applicability date, this NSPS does not apply to the Riley boiler at PFP. Subpart A is applicable only if Subpart Dc is applicable.

FARR - Limiting Visible Emissions: The Riley boiler is subject to the requirements of 40 CFR 49.124 – Rule for Limiting Visible Emissions. Although the emission limit is stated in Permit Section 3 – Generally Applicable Requirements, emission unit-specific monitoring, recordkeeping and reporting requirements are contained in Permit Section 5. Since PFP will be complying with this requirement by using the existing multiclone and wet scrubbers, the requirement to route all boiler exhaust to the control equipment is included in this permit (Permit Condition 5.3) pursuant to 40 CFR 71.6(a)(1). To assure

compliance with the visible emission limit, Permit Condition 5.4 requires that, pursuant to 40 CFR 71.6(a)(1), the control equipment be maintained in good operating condition and be in operation at any time that the boiler is operated.

In addition, pursuant to the periodic monitoring requirements, PFP is required to conduct periodic Method 9 observations on the boiler exhaust (Permit Conditions 5.8 and 5.9). Upon permit issuance, PFP is required to conduct two monthly visual observations. The frequency of subsequent visual observations is based on how close the prior two observations were to the standard (i.e. 20% opacity), ranging from quarterly (when both of the values are below 10% opacity) to daily (when at least one observation is at least 20% opacity).

FARR - Limiting the Emissions of Particulate Matter: The Riley boiler is subject to the requirements of 40 CFR 49.125 – Limiting the Emissions of Particulate Matter. Since, as for compliance with visible emission limits, PFP will be relying on using the existing multiclone and wet scrubbers, the requirements to route all boiler exhaust to the control equipment and maintain control equipment are included in this permit (Permit Conditions 5.3 and 5.4).

PFP conducted a source test in May, 2005. Particulate matter results from the three test runs indicate concentrations of 0.0370, 0.0381 and 0.0313 grains/dry standard cubic foot at seven percent excess oxygen, with an average of .0355 grains/dry standard cubic foot. This result is well below the standard of 0.46 grams/dry standard cubic meter (0.2 grains/ dry standard cubic foot).

Consequently, using the schedule set in the draft permit, the next source test would be scheduled for approximately four years after the date of the first test, in 2005. For this requirement, PFP is required to test the boiler exhaust between December 1, 2008 and February 28, 2009 (Permit Condition 5.5). Depending on the results from this latest source test, subsequent testing, pursuant to periodic monitoring requirements, is required between December 1 and February 28 (Permit Condition 5.7) on a frequency established as follows:

> Test results are at least 75% of emission limit: test annually,
> Test results are at least 50% but less than 75% of emission limit: test every two years,
> Test results are less than 50% of emission limit: test every four years.

Testing during the winter will provide a better indication of emissions performance as the fuel can be expected to have greater moisture content and the heat load can be expected to be higher. During all of these tests, PFP is required to monitor various parameters that provide an indication of boiler and control operation (Permit Conditions 5.5.1 and 5.6). In addition, Permit Condition 3.48 specifies the method to correct measured pollutant concentrations for oxygen concentration.

This permit section also contains permit conditions (Permit Conditions 5.8 through 5.12) implementing the periodic monitoring requirements of the Title V program to require ongoing monitoring of boiler and control equipment parameters to indicate whether these equipment are being operated in a manner similar to the conditions under which the emission unit was tested. Additionally, for both scrubber flow and pressure drop, operation outside the high and low values of each parameter measured during the source test will require additional action by PFP. Operation outside these ranges will require PFP to investigate, take appropriate corrective action and treat the event as a permit deviation.

While EPA was reviewing the source test data, it was discovered that the applicant does not currently have the capability to measure boiler excess oxygen. The values previously reported as boiler excess oxygen were in fact measured at a location approximately one foot above the traveling boiler grate and protruding about six inches into the firebox. In order to obtain meaningful boiler excess oxygen values (a measure of boiler operation), PFP has agreed to install a new sensor and related monitoring equipment

downstream of the firebox. In this permit, PFP is allowed up to about six months to effect this installation. Permit Condition 5.11 allows for installation of the oxygen sensor. Since measured particulate matter concentrations are well below the standard, PFP is only required to monitor boiler excess oxygen concentration until the next source test. Within 90 days after the test in 2008/2009, PFP will be required, under Permit Condition 5.15, to submit a significant permit modification request to update scrubber parameter ranges, and to add parameter ranges for boiler excess oxygen.

FARR - Limiting Sulfur in Fuels: Pursuant to the requirements of 40 CFR 49.130, PFP is prohibited from using any fuel with a sulfur content in excess of 2% sulfur by weight. This limitation and the measures to assure compliance with this provision are contained in Permit Condition 4.6. EPA has determined that additional emission unit-specific permit conditions are not required to assure compliance with this rule.

FARR - Limiting Emissions of Sulfur Dioxide: The Riley boiler is subject to the requirements of 40 CFR 49.129 – Rule for Limiting Emissions of Sulfur Dioxide. Sulfur content of wood and bark is expected to be low. SO_2 emissions from the hog fuel boiler stack are estimated as follows:

- Wood Burning SO_2 Emission Factor: 0.025 lb/MMBtu
  Emission Factor Source: AP-42, Section 1.6, Table 1.6-2
- Maximum Heat Input: 105 MMBtu/hr
- Emission Calculation:
  105 MMBtu/hr * 0.025 lb/MMBtu = 2.63 lb/hr

- Measured Flow Rate from 2005 Source Test: 34,043 dscfm @ 7.83% O_2
- SO_2 Concentration Calculation:
  34,043 dscfm * 60 min/hr = 2,042,580 dscf/hr
  2,042,580 dscf/hr / 385 dscf/lbmol = 5,305 lbmol gas/hr
  2.63 lb/hr / 64 lb/lbmol = 0.041 lbmol SO_2/hr
  0.041 lbmol SO_2/hr / 5,305 lbmol gas/hr = 7.7 ppm

- Correction for Oxygen Concentration:
  7.7 *(21-7)/(21-7.83) = 8.2 ppm

When corrected to 7% oxygen, the estimated potential SO_2 concentration from the boiler (i.e. 8.2 ppm) is expected to be well below the FARR regulatory limit of 500 ppm. EPA has determined that because of this margin of compliance and because high levels of sulfur are not expected in hog fuel, additional monitoring is not required.

Compliance Assurance Monitoring (CAM) – 40 CFR Part 64: CAM applies to emission units subject to an emission limit with a pre-control potential to emit greater than the major source threshold defined in Title V (generally, 100 tons per year) and that use a control device to comply with the limit. All units that meet the CAM applicability criteria must be in compliance at permit renewal and may also be required to submit a CAM plan if a significant change is made to the unit prior to renewal. The Riley boiler has a pre-control PM PTE over 100 tons per year, is subject to PM limits and uses control equipment. The Riley boiler is not subject to CAM at this time, but will be subject to CAM at permit renewal. No other pollutants emitted by the Riley boiler are both subject to a standard and controlled by a control device, so CAM does not apply to the boiler for any other pollutants.

5.6 Permit Section 6 – Emission Unit BLR-2 – Oil-fired Boiler

The York-Shipley is a No. 2 oil-fired boiler, used as a backup to the Riley boiler. It has a heat input capacity of 14 MMBtu/hr. The boiler was originally constructed in 1973, but was installed at PFP in 2002. According to PFP, this boiler has not been modified or reconstructed.

The York-Shipley boiler is potentially subject to two types of applicable requirements: (1) NSPS, and (2) FARR requirements. Periodic monitoring requirements have been added to ensure compliance with the FARR requirements, as described below. Since PFP will be using this boiler only as a backup unit, periodic monitoring requirements are less extensive than for the Riley boiler. PFP is required to contemporaneously document the hours that this emission unit is operated. This will help substantiate that the unit continues to be a backup unit.

NSPS – 40 CFR Part 60, Subpart Dc and A: NSPS Subpart Dc applies to industrial-commercial-institutional steam generating units rated at least 10 MMBtu/hr, but no greater than less than 100 MMBtu/hr design heat input capacity that were built or modified after June 9, 1989. As noted earlier, the applicant has indicated that the boiler has never been modified or reconstructed. Since the construction date is before the NSPS applicability date, this NSPS does not apply to the York-Shipley boiler at PFP.

FARR - Limiting Visible Emissions: The York-Shipley boiler is subject to the requirements of 40 CFR 49.124 – Rule for Limiting Visible Emissions. Although the emission limit is stated in Permit Section 3 – Generally Applicable Requirements, testing, monitoring, recordkeeping and reporting requirements are contained in this permit section. Pursuant to the periodic monitoring requirements of the Title V program, PFP is required to conduct a Method 9 observation on the boiler exhaust the first time each calendar year that the unit is operated for 4 or more consecutive daylight hours.

FARR - Limiting the Emissions of Particulate Matter: The York-Shipley boiler is subject to the requirements of 40 CFR 49.125 – Limiting the Emissions of Particulate Matter. Estimated PM emissions from the oil boiler stack are calculated as follow:

- Emission Factor: 2 pounds per 1000 gallons (2 lb/1000 gal)
  Emission Factor Source: AP-42, Section 1.3, September 1998, Table 1.3-1
- Maximum Fuel Usage: 101 gallons per hour (gal/hr)
- Emission Calculation:
  2 lb/1000 gal * 101 gal/hr = 0.20 lb/hr

- F-factor: 9,190 dry standard cubic foot per million Btu (dscf/MMBtu)
- F-factor Source: 40CFR60, Appendix A, Method 19, Table 19-2
- Diesel fuel heat content: 137 MMBtu/1000 gal
- Flowrate Calculation:
  137 MMBtu/1000 gal * 101 gal/hr * 9,190 dscf/MMBtu = 127,162 dscf/hr
  127,162 dscf/hr (20.9/(20.9-7)) = 191,200 dscf/hr @ 7% O_2

- PM Concentration Calculation:
  0.20 lb/hr * 7,000 grains/lb = 1,400 gr/hr
  1,400 gr/hr / 191,200 dscf/hr = 0.007 gr/dscf @ 7% O_2

As shown in the calculations above, the maximum potential PM emissions from the oil-fired boiler are expected to be approximately 0.007 gr/dscf @ 7% O_2, which is much lower than the applicable FARR regulatory limit of 0.1 gr/dscf @ 7% O_2. EPA has determined that because of this margin of compliance and because this boiler is a backup unit, additional monitoring is not required.

FARR - Limiting Sulfur in Fuels: Pursuant to the requirements of 40 CFR 49.130, PFP is prohibited from using any fuel with a sulfur content in excess of 0.5% sulfur by weight. The compliance assurance measures for this provision are contained in Permit Condition 4.4.

FARR - Limiting Emissions of Sulfur Dioxide: The York-Shipley boiler is subject to the requirements of 40 CFR 49.129 – Rule for Limiting Emissions of Sulfur Dioxide. Estimated SO_2 emissions from the oil-fired boiler stack are calculated as follow:

Estimated SO_2 emissions from the oil boiler stack are calculated as follows:

- Maximum Fuel Sulfur Content: 0.5% sulfur by weight
- Maximum Fuel Usage: 101 gallons per hour (gal/hr)
- Emission Calculation thru Mass Balance:
  0.005 lb S/lb fuel * 7.1 lb fuel/gal * 101 gal fuel/hr * 2 lb SO_2/S = 7.17 lb/hr

- F-factor: 9,190 dry standard cubic foot per million Btu (dscf/MMBtu)
  F-factor Source: 40CFR60, Appendix A, Method 19, Table 19-1
- Diesel fuel heat content: 137 MMBtu/1000 gal
- Flowrate Calculation:
  137 MMBtu/1000 gal * 101 gal/hr * 9,190 dscf/MMBtu = 127,162 dscf/hr
  127,162 dscf/hr (20.9/(20.9-7)) = 191,200 dscf/hr @ 7% O_2

- SO_2 Concentration Calculation:
  191,200 dscf/hr / 385 dscf/lbmol = 497 lbmol gas/hr
  7.17 lb/hr / 64 lb/lbmol = 0.112 lbmol SO_2/hr
  0.112 lbmol SO_2/hr / 497 lbmol gas/hr = 225 ppm

As shown in the calculations above, the maximum potential SO_2 emissions from the boiler, based on 0.5% sulfur content, are 225 ppm, which is less than the FARR regulatory limit of 500 ppm. Therefore, compliance is reasonably assured through compliance with the 0.5% fuel sulfur limit in 40 CFR 49.130.

5.7 Permit Section 7 – Emission Unit KLN – Drying Kilns

The lumber drying kilns were installed in 1982 and 1996. The kilns are subject to the requirements of the FARR, as discussed below.

FARR - Limiting Visible Emissions: The lumber drying kilns are subject to the requirements of 40 CFR 49.124 – Rule for Limiting Visible Emissions. The emission limit is stated in Permit Section 3 – Generally Applicable Requirements. Although Method 9 can be used for lumber kilns, it may be hard to get acceptable readings due to condensed water plumes and multiple vents. Based on past experience, lumber drying kilns do not tend to have visible emissions that approach 20% opacity. Because of this fact, and because visible emissions are low even without a control device, EPA has determined that no periodic monitoring is needed to assure compliance with the visible emission limit for the drying kilns. However, consistent with Permit Condition 3.5.2, if the permittee is aware of any information that indicates noncompliance, that information cannot be omitted from the annual compliance certification.

FARR - Limiting the Emissions of Particulate Matter: The lumber drying kilns are subject to the requirements of 40 CFR 49.125 – Limiting the Emissions of Particulate Matter. Estimated PM emissions from the dry kiln vents are calculated as follows:

- Kiln PM Emission Factor: 0.05 pounds per thousand board feet (lb/Mbdft)
- Estimated total kiln emissions:

0.05 lb/Mbdft * 109,200 Mbdft/yr / 8,760 hr/yr = 0.62 lb/hr

- Estimated maximum emissions per kiln (assuming only 3 kilns run): 0.21 lb/hr
  (Using three kilns rather than four is a conservative assumption.)

- Estimated flow rate per kiln: 10,000 dscfm (600,000 dscf/hr)
  (Estimated by permittee in supplementary materials to initial Title V application)
- PM Concentration Calculation:
  0.21 lb/hr * 7,000 grains/dscf = 1,470 gr/hr
  1,470 gr/hr / 600,000 dscf/hr = 0.002 gr/dscf

As shown in the calculations above, the maximum potential PM emissions from the kilns are estimated to be 0.002 gr/dscf, which is well below the emission limit of 0.1 gr/dscf. Lumber kilns are hard to test due to their multiple vent openings. For these reasons, the permit contains no additional monitoring requirements for the PM limit for the kilns.

5.8 Permit Section 8 – Emission Unit SAW – Sawmill

The sawmill is a large building that houses various related operations. First, logs from the logyard are debarked in the debarking operations located inside the sawmill. Debarked logs are then sent to the log saw, while the bark is sent via a belt conveyor to the bark hog (located outdoors). Sawn logs (i.e. green lumber) are taken outside where they are stacked, awaiting drying in the kilns. Log ends are chipped and the chips are pneumatically conveyed to the chip bins(EU BINS). Sawdust is collected and pneumatically conveyed to the sawdust bins or sawdust pile (EU PILES). As noted earlier, the original sawmill burned down in 1998, and a replacement was built in 2001.

The sawmill is subject to the requirements of the FARR. Periodic monitoring requirements have been added to assure compliance with the FARR requirements, as described below.

FARR - Limiting Visible Emissions: The sawmill is subject to the requirements of 40 CFR 49.124 – Rule for Limiting Visible Emissions. The emission limit is specified in Permit Section 3 – Generally Applicable Requirements. The monitoring, recordkeeping and reporting for this requirement is the Plant Walkthrough monitoring regimen as specified in Permit Conditions 4.7 through 4.13.

FARR - Limiting the Emissions of Particulate Matter: Although the sawmill is subject to the requirements of 40 CFR 49.125 – Limiting the Emissions of Particulate Matter, the nature of the operations and the existence of a building to cover the operations mean that emissions of PM are not expected. For these reasons, the permit contains no additional monitoring requirements.

5.9 Permit Section 9 – Emission Unit BINS – Chip, Sawdust and Shavings Truck Bins

The BINS emission unit consists of three sets of bins, used to store wood chips, sawdust and planer shavings. Materials are pneumatically conveyed to each bin. Point source emissions from the bins consist of the target boxes atop the chip bins and the sawdust bins, and a cyclone on the shavings bins. Fugitive emissions may occur when the bins are being unloaded into trucks.

FARR - Limiting Visible Emissions: The bins are subject to the requirements of 40 CFR 49.124 – Rule for Limiting Visible Emissions. The emission limit is stated in Permit Section 3 – Generally Applicable Requirements. Minimal emissions are expected from the target boxes, and so, the permit contains no emission unit-specific monitoring requirements. Instead, visible emissions will be monitored by conducting the Plant Walkthrough monitoring regimen as specified in Permit Conditions 4.7 through 4.13.

FARR - Limiting the Emissions of Particulate Matter: Although the bins are subject to the requirements of 40 CFR 49.125 – Limiting the Emissions of Particulate Matter, the nature of the operations mean that minimal emissions of PM are expected. For this reason, the permit contains no additional monitoring requirements.

FARR - Limiting Fugitive Particulate Matter Emissions: The bins are subject to the requirements of 40 CFR 49.126 – Rule for Limiting the Emissions of Particulate Matter. Pursuant to this rule, the permittee must take reasonable precautions to minimize fugitive particulate matter emissions from these operations, and this emission unit must be included in the annual survey and written plan specified in Permit Conditions 3.37 and 3.38. In addition, fugitive emissions will be monitored by conducting the Plant Walkthrough monitoring regimen as specified in Permit Conditions 4.7 through 4.13.

5.10 Permit Section 10 – Emission Unit PLN – Planer Mill

The planer mill consists of a building housing the planing operations. The mill has two cyclones – the planer shavings cyclone and the planer chipper cyclone.

FARR - Limiting Visible Emissions: The potential sources of visible emissions are the cyclones. The emission limit is specified in Permit Section 3 – Generally Applicable Requirements. The compliance assurance measures for this requirement are the Plant Walkthrough monitoring regimen as specified in Permit Conditions 4.7 through 4.13.

FARR - Limiting the Emissions of Particulate Matter: Although the bins are subject to the requirements of 40 CFR 49.125 – Limiting the Emissions of Particulate Matter, the nature of the operations mean that minimal emissions of PM are expected. In addition, the Plant Walkthrough monitoring regimen as specified in Permit Conditions 4.7 through 4.13 are being relied upon as an indication of particulate emissions. For these reasons, the permit contains no additional monitoring requirements for PM emissions from the Planer Mill.

5.11 Permit Section 11 – Emission Unit HTR-1 – Used Oil Heater

The Clean Burn 4000 is a 280,000 Btu/hr space heater that is designed to operate on used oil. It is used during the cold weather months, and combusts only oil produced on site.

Although the Clean Burn is subject to the visible emissions rule, the particulate matter emissions rule, and the sulfur dioxide emissions rule, because of the rating of the unit, additional monitoring has not been required in the permit. However, the permittee must still comply with the fuel sulfur content requirements of 40 CFR 49.130, which is contained in Permit Condition 4.5. The related compliance assurance measures are contained in Permit Condition 4.7.

Because of the potential for variability of the chloride content in the used oil, Permit Conditions 4.12 through 4.14 specify fuel sampling and analysis, and reporting to substantiate minor source status for hydrogen chloride (see Section 5.4 of this document).

5.12 Emission Units Not Listed in the Permit

The bark hog, bark fuel pile, sawdust pile, shavings pile, diesel tank, gasoline tank, green lumber stacking area, logyard and plant traffic activities are all not listed in the permit because they do not have emission unit-specific requirements. However, the permittee must comply with all standard terms and conditions, generally applicable requirements and facility-wide requirements as they apply to these activities.

5.13 PSD

Under the PSD program, 40 CFR 52.21, no "major stationary source" or "major modification" to a major stationary source can begin actual construction without first obtaining a PSD permit that meets the

requirements of 40 CFR 52.21. In general, a major stationary source for purposes of the PSD program is a source with a PTE of more than 250 tons per year. During review and development of this permit, EPA has not drawn any conclusions regarding compliance with past permitting requirements for this facility. Therefore, no permit shield is implied or explicit for past new source review, PSD, or for any applicable requirement not specifically identified in the permit.

6 Public Participation

6.1 Public Notice and Comment

As described in 40 CFR 71.11(a)(5), all draft operating permits must be publicly noticed and made available for public comment. The public notice of permit actions and public comment period is described in 40 CFR 71.11(d). There is a 30 day public comment period for actions pertaining to a draft permit.

For this permit action, the requirements of 40 CFR 71.11(a)(5) are satisfied as follow:

1. Publish public notice for this draft permit in a daily or weekly newspaper of general circulation in the area affected by this source;
2. Provide notice by mailing a copy of the public notice to the permit applicant, the affected state, the Tribal, city and county executives, and the local emergency planning authorities which have jurisdiction over the area where the source is located;
3. Provide a copy of the notice to all persons who submitted a written request to be included on EPA Region 10's mailing list for Title V permitting actions;
4. Making available, on the Region 10 website **[www.epa.gov/r10earth/ (once there, click on "Air")]**, a copy of the draft permit prepared by EPA, and the statement of basis for the draft permit;
5. Making available, at the Region 10 office and at the locations listed below, a copy of the draft permit prepared by EPA, the statement of basis for the draft permit, the application, and all supporting materials submitted by the source.

Plummer Public Library 800 D Street/P.O. Box 309 Plummer, ID 83851	Coeur d'Alene Tribe 850 A St/P.O. Box 408 Plummer ID 83851

The above process was followed in development of this draft permit.

6.2 Response to Public Comments Received

40 CFR 71.11(a)(5) contains requirements that apply after the draft permit is made available for public comment. These additional requirements must be satisfied prior to issuance of the final permit:

1. Accepting comments (submitted both electronically and via hard copy) on the draft permit, during the 30 day public comment period;
2. Considering all comments received during the public comment period and all comments made during a public hearing (if one is held) in arriving at a final decision on the permit.
3. Providing a statement of reasons for changes made to the draft permit and responses to comments received to persons who commented on the draft permit.

During the public comment period for this permit action, EPA received comments only from PFP. In their comments, PFP requested that instead of requiring source testing of the hog fuel-fired boiler in early 2006, EPA use the results of a source test conducted in May 2005 to determine compliance, establish

parameter ranges and establish a future testing schedule. EPA has reviewed the results of the source test and additional data provided by PFP, and has determined that with one exception, the source test met the requirements in the draft permit for the initial source test. The one exception was that the visible emissions observations were conducted for only 30 minutes instead of the full duration of each test run. Given the particulate matter emission concentration (discussed in Section 5.5), low opacity readings during the test and that future visible emission readings will be conducted for one hour, EPA has determined that this source test can substitute for the initial source test specified in the draft permit.

Additionally, as parameters are now available for scrubber flow and pressure drop, requirements for operation outside specified parameters measured during the source test have been incorporated into Permit Condition 5.12 (formerly Permit Condition 5.11). While EPA was reviewing the source test data, it was discovered that the applicant does not currently have the capability to measure boiler excess oxygen. Permit Condition 5.10 has been amended and a new Permit Condition 5.11 has been added to allow for installation of the oxygen sensor. Permit Conditions 5.10 through 5.12 are discussed in Section 5.5 of this statement of basis.

Subsequent to the public comment period, PFP sought revision to Permit Conditions 3.33 through 3.35. Because the request was late and because EPA determined that change to the draft permit was not necessary to clarify rule intent, the requested change was not made to the permit. However, in the interest of clarification, a paragraph was added to Section 5.3 of this statement of basis.

During the public comment period, EPA identified a typographical error in the FARR. 40 CFR 49.138(f) refers to paragraph (e)(3) to define the scope of information to be submitted by the source as part of the annual registration. However, as described in the preamble to the FARR, EPA's intent was to require Title V facilities to only submit emissions estimates (i.e. 40 CFR 49.138(e)(3)(xii)) as part of the annual registration instead of all of the information listed in sections 40 CFR 49.138.(e)(i) through (e)(xi), (e)(xiii) and (e)(xiv). To address this typographical error, EPA has deleted the requirements in Condition 3.24 that correspond to sections 40 CFR 49.138.(e)(i) through (e)(xi), (e)(xiii) and (e)(xiv). The corresponding paragraphs in the draft statement of basis have also been removed from this final statement of basis.

During the comment period, EPA noted that the language in the table in Permit Condition 5.9 was not entirely clear as to what was meant by "observation" of visible emissions. This language has been amended to clarify the schedule for future observations of visible emissions.

EPA also noted that Permit Condition 5.14 in the draft permit required PFP to send to EPA a copy of the source test results at the time of submittal of the annual certification. Permit Condition 3.50 already requires PFP to submit a copy of the source test results within 45 days of conducting the test. The duplicative reporting (i.e. Permit Condition 5.14) was deleted from the final permit.

Because of the delay in issuing this permit, two of the deadlines in the permit (Permit Conditions 8.2 and 10.2) have already passed. These deadlines were changed to August 2006.

Appendix A
Emission Inventory Basics

Emission inventories serve several important functions in connection with issuance of Title V permits, including determining the applicability of regulatory requirements and calculating fees. This section explains the role of emission inventories in issuing Title V permits and how emission inventories are developed.

An emission inventory is an accounting of the air pollution emitted by a source, and can be presented as either the "actual" or "potential" emissions from the source. Actual emissions are generally based on actual operation and controls and represent a specific period of time. Potential emissions, referred to as potential to emit (PTE), generally represent the maximum capacity of a source to emit a pollutant under its physical and operational design, taking into consideration regulatory restrictions and required control devices. Regulatory programs often dictate which type of inventory is used for applicability and fee purposes, specifying which time periods, pollutants and operations must be considered.

Emissions caused by industrial facilities can be broken into two categories: point and fugitive. Fugitive emissions are those which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening. Point sources of emissions include any emissions that are not fugitive. Examples of fugitive emissions are roads, piles that cannot reasonably be enclosed, wind blown dust from open areas, and those operations that are normally performed outside buildings.

Title V requires all major sources of air pollution, and some minor sources, to get operating permits. Whether a source is major for Title V is based on the PTE of the source. Only point source emissions (not fugitive) are included in the PTE under the Title V program unless the source belongs to a particular category of sources and except in the case of hazardous air pollutants (HAPs) (see "major source" in 40 CFR 70.2). Title V requires sources to submit fees with their initial Title V application and annually thereafter. The amount of the fee is based on actual emissions and includes consideration of point and fugitive emissions.

EPA's PSD program is a pre-construction permitting program. PTE is also used to determine the applicability of the PSD program and fugitive emissions are including in determining the PTE of a source only for certain types of sources (same categories as Title V).

Under Section 112 of the Act, EPA has promulgated Maximum Achievable Control Technology (MACT) regulations that establish a number of requirements for certain categories of industrial sources that emit HAPs. PTE is also used to determine the applicability of MACT standards to a facility, but under Section 112, PTE includes only HAPs and counts all fugitive emissions. The applicability of other requirements to a facility may also depend on the facility's actual emissions or PTE.

Emission estimates in emission inventories rely on information gained about the emission unit in question, or about other similar emission units, through emission testing or monitoring. There are various way to gather the information needed to develop emission factors. The more similar the tested or monitored source is to the one in question (actual tests or monitoring on the source itself is obviously the best information one can obtain), the more accurate the information is for estimating emissions. In order of preference, starting with the best, the following types of information are used to develop "emission factors" which predict the amount of pollution that may be caused by a given amount of operation (e.g. production, firing rate, operating time) and are often presented in terms of mass of emission per unit production, operation or time (e.g. lb per mlb steam produced, lb per msf of panel produced, lb per ton of material handled, and etc): continuous emission monitoring data; emission tests; mass balances; factors

developed for similar sources; general emission factors; and engineering judgment. Emission factors have been published by EPA, and a number of other organizations, and are generally meant to be industry averages. Site-specific testing and development of emission factors is particularly important when emission control devices are utilized.

In any event, emission factors can only estimate emissions. For applicability and compliance purposes, it is the responsibility of the source to accurately characterize and estimate their emissions and appropriately select and use emission factors. Inaccurate characterization or estimation of the source's emissions could result in an enforcement action.

Air pollutants must be carefully defined in emission inventories, because the testing that is used as a basis for a particular emission factor may not have distinguished various forms of pollutants and chemicals. For instance, fine particulate matter (PM10 - particulate that is 10 microns or less in aerodynamic size) is not always a subset of particulate matter (PM - generally includes particulate in the 35 to 70 micron size range), because PM10 and PM are measured using different techniques. The measurement (test method) of PM10 includes condensable particulate matter (those particulates which are often gaseous in stacks but condense and react to become particulate matter which is measured in ambient air monitors some distance away from the stack and source), while the measurement of PM does not. In some cases, PM10 is a fraction of the PM, while in other cases, the PM10 emissions may be greater than the PM emissions.

While the measurement techniques for lead can vary as well, the accounting of lead is complicated by the fact that it is both a "criteria pollutant" and a HAP. Some, but not all, VOC is also HAP, but not all volatile HAP is counted as VOC, due to their limited reactivity in the atmosphere. Likewise, many HAP are in the form of particulate and counted as such in a PM or PM10 measurement. Therefore, while it is important to estimate all of the pollutants as accurately as possible, individual emission estimates, particularly for PM, PM10, HAP, lead and VOC, should be understood and carefully reviewed to avoid double counting the emissions for fee purposes. For fee payment, EPA does not require PM to be summed, thus avoiding some of the potential double counting.

APPENDIX B

PLUMMER FOREST PRODUCTS

COEUR D'ALENE RESERVATION

TITLE V CRITERIA POLLUTANT EMISSION INVENTORY

Summary of Facility Emissions

Sub-Total Emissions: Point Sources

Emission Unit	Emission Unit Description	Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC
BLR-1	Hog Fuel Boiler (stack emissions)*	275.94	0.02	101.18	30.35	37.71	11.5	7.82
BLR-2	Oil-fired Boiler	2.19	6.61E-04	8.76	0.88	1.01	31.1	0.09
KLN	Lumber Drying Kilns				2.73	2.73		34.94
SAW	Sawmill	0	0	0	80.85	40.43	0	0
HOG	Bark Hogging & Handling	0	0	0	4	2	0	0
BINS	Chip, Sawdust and Shavings Truck Bins (Target Box)	0	0	0	8.41	4.21	0	0
PILES	Piles and Handling	0	0	0	2.11E-01	8.82E-02	0	0
PLN	Planer Mill	0	0	0	17.04	1.70	0	0
HTR-1	Used Oil-firedHeater	0.04	5.73E-02	0.17	0.01	0	0.52	0.01
TNK	Fuel Tanks	0	0	0	0	0	0	0.05
		278.17	7.80E-02	110.11	144.48	89.88	43.12	42.91

Sub-Total Emissions: Fugitive Sources

Emission Unit	Emission Unit Description	Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC
BLR-1	Hog Fuel Boiler (ash handling)	0	0	0	2.4E-03	8.2E-04	0	0
BINS	Chip, Sawdust and Shavings Truck Bins (Truck Load)	0	0	0	9.98E-02	3.49E-02	0	0
GRN	Green Lumber Stacking Area	0	0	0	0	0	0	0
LY	Logyard and Plant Traffic	0	0	0	195.61	55.76	0	0
		0	0	0	195.72	55.79	0	0

Total Emissions

Emission Unit	Emission Unit Description	Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC
BLR-1	Hog Fuel Boiler (stack emissions)	275.94	0.02	101.18	30.35	37.71	11.5	7.82
BLR-2	Oil-fired Boiler	2.19	6.61E-04	8.76	0.88	1.01	31.1	0.09
KLN	Lumber Drying Kilns				2.73	2.73		34.94
SAW	Sawmill	0	0	0	80.85	40.43	0	0
HOG	Bark Hogging & Handling	0	0	0	4.00	2.00	0	0
BINS	Chip, Sawdust and Shavings Truck Bins	0	0	0	8.51	4.24	0	0
PILES	Piles and Handling	0	0	0	2.11E-01	8.82E-02	0	0
PLN	Planer Mill	0	0	0	17.04	1.70	0	0
HTR-1	Used Oil-firedHeater	0.04	5.73E-02	0.17	0.01	0	0.52	0.01
TNK	Fuel Tanks	0	0	0	0	0	0	5.34E-02
GRN	Green Lumber Stacking Area	0	0	0	0	0	0	0
LY	Logyard and Plant Traffic	0	0	0	195.61	55.76	0	0
	TOTAL:	278.17	7.80E-02	110.11	340.19	145.68	43.12	42.91

PLUMMER FOREST PRODUCTS
COEUR D'ALENE RESERVATION
TITLE V CRITERIA POLLUTANT EMISSION INVENTORY

Emission Unit: **BLR-1 Hog Fuel Boiler**
Activity: **Hog Fuel Boiler**
Manufacturer: **Riley**
Model: **Rx**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/MMBtu							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
105 MMBtu/hr	8760	0.6	4.8E-05	0.22	0.066	0.082	0.025	0.017	275.94	0.02	101.18	30.35	37.71	11.5	7.82

Basis for rating: unknown
CO factor: AP-42 September 2003, Table 1.6-2
Lead factor: AP-42 September 2003, Table 1.6-4
NOx factor: AP-42 September 2003, Table 1.6-2
PM factor: AP-42 September 2003, Table 1.6-1, with wet scrubber
PM10 factor AP-42 September 2003, Table 1.6-1, with wet scrubber. Includes EF for condensible PM
SO2 factor: AP-42 September 2003, Table 1.6-2
VOC factor: AP-42 September 2003, Table 1.6-3

Activity: **Ash Handling - Fugitive**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/ton							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
1,200 tons	8760				0.0039	0.0014						2.4E-03	8.2E-04		

Basis for rating: Estimate by applicant - see permit application
PM factor: AP-42 January 1995, Section 13.2.4, Equation 1
Emission factor=k(0.0032)(U/5)^1.3/(M/2)^1.4

Where:	U, mean wind speed (mph) =	15	basis: applicant estimate
	M, material moisture content (5) =	4.8	basis: applicant estimate
	k, particle size multiplier	1	basis: AP-42

PM10 factor Same as for PM, except for

	k, particle size multiplier	0.35	basis: AP-42

PLUMMER FOREST PRODUCTS
COEUR D'ALENE RESERVATION
TITLE V CRITERIA POLLUTANT EMISSION INVENTORY

Emission Unit: **BLR-2 Oil-Fired Boiler**
Activity: **Oil-Fired Boiler**
Manufacturer: **York-Shipley**
Model: **SPH400-6-FAH-57-6109**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/10^3 gal							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
14 MMBtu/hr	8760	5	0.0015	20	2	2.3	71	0.2	2.19	6.6E-04	8.76	0.88	1.01	31.1	0.09

Basis for rating: Per application, equivalent to 13,800 lbs of steam/hour at 212F

CO factor: AP-42 September 1998, Table 1.3-1
Lead factor: AP-42 September 1998, Table 1.3-11
NOx factor: AP-42 September 1998, Table 1.3-1
PM factor: AP-42 September 1998, Table 1.3-1
PM10 factor AP-42 September 1998, Tables 1.3-2 and 1.3-6
SO2 factor: AP-42 September 1998, Table 1.3-1
VOC factor: AP-42 September 1998, Table 1.3-3

Emission factors converted from lb/103 gal to lb/MMBtu based on heat content of fuel: 140 MMBtu/10^3 gal

PLUMMER FOREST PRODUCTS
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TITLE V CRITERIA POLLUTANT EMISSION INVENTORY

Emission Unit: **KLN** **Lumber Dry Kilns**
Activity: **Lumber Dry Kilns**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/Mbdft							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
109,200 Mbdft/year	8760				0.05	0.05		0.64				2.73	2.73		34.94

Basis for rating: Applicant estimate - see 3/29/05 supplement to application
Wood species processed include douglas fir, western larch, white fir, hemlock, lodgepole pine and cedar.

PM factor: ODEQ Permit Application Guidance AQ-EF02 (4/25/00)
PM10 factor All PM assumed to be PM10
VOC factor: Based on highest-emitting species (lodgepole pine), multiplied by 1.22 for propane basis and with
methanol and formaldehyde from 1 below added in

1. OSU Small-Scale Kiln Study Utilizing Ponderosa Pine, Lodgepole Pine, Whiiiiite Fir and Douglas Fir, Intermountain Forest Association, Michael Mlota, OSU 9/29/2000, as carbon

PLUMMER FOREST PRODUCTS
COEUR D'ALENE RESERVATION
TITLE V CRITERIA POLLUTANT EMISSION INVENTORY

Emission Unit: **SAW** **Sawmill**
Activity: **Debarker**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/Mbdft							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
109,200 Mbdft	8760				0.0904	0.0452						4.94	2.47		

Basis for rating: Applicant estimate - see permit application
PM factor: Fire 6.23 (AP-42 1985), fir logs. Converted from ton log to mbdft basis by multiplying by 4.108
Log density per Log Scaling and Timber Cruising, OSU, 1986)
PM10 factor 50% of PM emission factor - engineering judgment

Activity: **Bark Transport from Debarker to Bark Hog (indoor section)**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/ton bark							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
80,000 tons/year	8760				0.05	0.025						2	1		

Basis for rating: Applicant estimate - see permit application
PM factor: engineering judgment - comparable to 50% of target box emissions
PM10 factor engineering judgment - comparable to 50% of target box emissions

Activity: **Log Sawing**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/ton							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
393,000 tons/year	8760				0.35	0.175						68.78	34.39		

Basis for rating: unknown
PM factor: AP-42 (2/80) 10.3
PM10 factor AP-42 (2/80) 10.3; PM10 50% of PM from engineering judgment

Activity: **Sawdust Conveying and Handling Fugitives**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/ton							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
21,840 tons/year	8760				0.05	0.025						0.55	0.27		

Basis for rating: Applicant estimate of 0.2 tons/Mbdft - see supplemental to application of 3/29/05
PM factor: engineering judgment - comparable to 50% of target box emissions
PM10 factor engineering judgment - estimated to be 50% of PM emissions

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TITLE V CRITERIA POLLUTANT EMISSION INVENTORY

Emission Unit: **SAW** **Sawmill(continued)**

Activity: **Chippper**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/ton							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
91,728 tons/year	8760				0.05	0.025						2.29	1.15		

Basis for rating: Applicant estimate of 0.84 tons/Mbdft - see supplemental to application of 3/29/05
PM factor: engineering judgment - comparable to 50% of target box emissions
PM10 factor engineering judgment - estimated to be 50% of PM emissions

Activity: **Chip Conveying and Handling Fugitives**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/ton							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
91,728 tons/year	8760				0.05	0.025						2.29	1.15		

Basis for rating: Applicant estimate of 0.84 tons/Mbdft - see supplemental to application of 3/29/05
PM factor: engineering judgment - comparable to 50% of target box emissions
PM10 factor engineering judgment - estimated to be 50% of PM emissions

PLUMMER FOREST PRODUCTS
COEUR D'ALENE RESERVATION
TITLE V CRITERIA POLLUTANT EMISSION INVENTORY

Emission Unit: **HOG** **Bark Hogging and Handling**
Activity: **Bark Hogging**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/ton							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
80,000 tons/year	8760				0.05	0.025						2	1		

Basis for rating: Applicant estimate - see permit application
PM factor: engineering judgment - comparable to 50% of target box emissions
PM10 factor engineering judgment - comparable to 50% of target box emissions

Activity: **Bark Transport from Debarker to Bark Hog and from Hog to Fuel Pile (outdoor section)**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/ton bark							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
80,000 tons/year	8760				0.05	0.025						2	1		

Basis for rating: Applicant estimate - see permit application
PM factor: engineering judgment - comparable to 50% of target box emissions
PM10 factor engineering judgment - comparable to 50% of target box emissions

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TITLE V CRITERIA POLLUTANT EMISSION INVENTORY

Emission Unit: **BINS** **Chip, Sawdust and Shavings Truck Bins**

Activity: **Chip Transport from Sawmill to Chip Truck Bin (Target Box)**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/ton							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
91,728 tons/year	8760				0.1	0.05						4.59	2.29		

Basis for rating: Applicant estimate of 0.84 tons/Mbdft - see supplemental to application of 3/29/05

PM factor: ODEQ factor

PM10 factor engineering judgment - estimated to be 50% of PM emissions

Activity: **Loadout to Trucks from Chip Truck Bin**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/ton							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
91,728 tons/year	8760				0.0014	0.0005						6.4E-02	2.3E-02		

Basis for rating: Applicant estimate of 0.84 tons/Mbdft - see supplemental to application of 3/29/05

PM factor: AP-42 January 1995, Section 13.2.4, Equation 1

Emission factor=k(0.0032)(U/5)^1.3/(M/2)^1.4

Where:	U, mean wind speed (mph) =	15	basis: applicant estimate
	M, material moisture content (5) =	10	basis: estimate
	k, particle size multiplier	1	basis: AP-42

PM10 factor Same as for PM, except for

	k, particle size multiplier	0.35	basis: AP-42

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COEUR D'ALENE RESERVATION
TITLE V CRITERIA POLLUTANT EMISSION INVENTORY

Emission Unit: **BINS** **Chip, Sawdust and Shavings Truck Bins (cont.)**

Activity: **Sawdust Transport from Sawmill to Sawdust Truck Bin (Target Box)**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/ton							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
21,840 tons/year	8760				0.1	0.05						1.09	0.55		

Basis for rating: Applicant estimate of 0.2 tons/Mbdft - see supplemental to application of 3/29/05

PM factor: ODEQ factor

PM10 factor engineering judgment - estimated to be 50% of PM emissions

Activity: **Loadout to Trucks from Sawdust Truck Bin**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/ton							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
21,840 tons/year	8760				0.0014	0.0005						1.5E-02	5.4E-03		

Basis for rating: Applicant estimate of 0.2 tons/Mbdft - see supplemental to application of 3/29/05

PM factor: AP-42 January 1995, Section 13.2.4, Equation 1

Emission factor=k(0.0032)(U/5)^1.3/(M/2)^1.4

Where:	U, mean wind speed (mph) =	15	basis: applicant estimate
	M, material moisture content (5) =	10	basis: estimate
	k, particle size multiplier	1	basis: AP-42

PM10 factor Same as for PM, except for

	k, particle size multiplier	0.35	basis: AP-42

PLUMMER FOREST PRODUCTS
COEUR D'ALENE RESERVATION
TITLE V CRITERIA POLLUTANT EMISSION INVENTORY

Emission Unit: **BINS** **Chip, Sawdust and Shavings Truck Bins (cont.)**

Activity: **Planer Shavings Transport from Planer Mill to Shavings Truck Bin (Cyclone)**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/ton							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
10,920 tons/year	8760				0.5	0.25						2.73	1.37		

Basis for rating: Applicant estimate of 200 lbs/Mbdft - see supplemental to application of 3/29/05

PM factor: ODEQ factor, medium efficiency cyclone

PM10 factor engineering judgment - estimated to be 50% of PM emissions

Activity: **Loadout to Trucks from Shavings Truck Bin**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/ton							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
10,920 tons/year	8760				0.0037	0.0013						2.0E-02	7.1E-03		

Basis for rating: Applicant estimate of 0.2 tons/Mbdft - see supplemental to application of 3/29/05

PM factor: AP-42 January 1995, Section 13.2.4, Equation 1

Emission factor=k(0.0032)(U/5)^1.3/(M/2)^1.4

Where:	U, mean wind speed (mph) =	15	basis: applicant estimate
	M, material moisture content (5) =	5	basis: estimate
	k, particle size multiplier	1	basis: AP-42

PM10 factor Same as for PM, except for

	k, particle size multiplier	0.35	basis: AP-42

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COEUR D'ALENE RESERVATION
TITLE V CRITERIA POLLUTANT EMISSION INVENTORY

Emission Unit: **PILES** **Piles and Handling**
Activity: **Bark Drop onto Fuel Pile**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/ton							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
80,000 tons/year	8760				0.0005	0.0002						2.1E-02	7.4E-03		

Basis for rating: Applicant estimate - see permit application
PM factor: AP-42 January 1995, Section 13.2.4, Equation 1
Emission factor=k(0.0032)(U/5)^1.3/(M/2)^1.4
Where: U, mean wind speed (mph) = 15 basis: applicant estimate
M, material moisture content (5) = 20 basis: estimate
k, particle size multiplier 1 basis: AP-42
PM10 factor Same as for PM, except for
k, particle size multiplier 0.35 basis: AP-42

Activity: **Wind Erosion of Bark Fuel Pile**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/acre-year							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
0.040 Acres	8760				760	380						1.5E-02	7.7E-03		

Basis for rating: Based on applicant estimate of 390 cu yard pile with maximum height of 24 ft - see supplemental to application of 3/29/05
Square yards per acre = 4840
Average height assumed to be: 2 yards
PM factor: AP-42 October 1998, Section 11.9, Table 11.9-4
PM10 factor Engineering estimate - 50% of PM factor

Activity: **Bark Fuel Transport from Fuel Pile to Boiler**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/ton							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
80,000 tons/year	8760				0.0005	0.0002						2.1E-02	7.4E-03		

Basis for rating: Applicant estimate - see permit application
PM factor: Engineering estimate - assumed to be the same as for bark drop onto pil
PM10 factor Engineering estimate - assumed to be the same as for bark drop onto pil

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TITLE V CRITERIA POLLUTANT EMISSION INVENTORY

Emission Unit: **PILES** **Piles and Handling (cont.)**

Activity: **Sawdust Drop onto Fuel Pile**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/ton							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
21,840 tons/year	8760				0.0014	0.0005						1.5E-02	5.4E-03		

Basis for rating: Applicant estimate of 0.2 tons/Mbdft - see supplemental to application of 3/29/05

PM factor: AP-42 January 1995, Section 13.2.4, Equation 1

Emission factor=k(0.0032)(U/5)^1.3/(M/2)^1.4

Where:	U, mean wind speed (mph) =	15	basis: applicant estimate
	M, material moisture content (5) =	10	basis: estimate
	k, particle size multiplier	1	basis: AP-42

PM10 factor: Same as for PM, except for

	k, particle size multiplier	0.35	basis: AP-42

Activity: **Sawdust Pile Wind Erosion**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/acre-year							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
0.054 Acres	8760				1520	760						4.1E-02	2.0E-02		

Basis for rating: Based on applicant estimate of 260 cu yard pile - see supplemental to application of 3/29/05

Square yards per acre =	4840
Average height assumed to be:	1.5 yards

PM factor: AP-42 October 1998, Section 11.9, Table 11.9-4 - sawdust factor estimated to be twice factor for bark pile

PM10 factor: Engineering estimate - 50% of PM factor

Activity: **Loading from Sawdust Pile to Trucks**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/ton							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
21,840 tons/year	8760				0.0014	0.0005						1.5E-02	5.4E-03		

Basis for rating: Applicant estimate of 0.2 tons/Mbdft - see supplemental to application of 3/29/05

PM factor: Engineering estimate - assumed to be the same as for sawdust drop onto pile

PM10 factor: Engineering estimate - assumed to be the same as for sawdust drop onto pile

PLUMMER FOREST PRODUCTS
COEUR D'ALENE RESERVATION
TITLE V CRITERIA POLLUTANT EMISSION INVENTORY

Emission Unit: **PILES** **Piles and Handling (cont.)**
Activity: **Shavings Truck Dump Fugitives**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/ton							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
10,920 tons/year	8760				0.0037	0.0013						2.0E-02	7.1E-03		

Basis for rating: Applicant estimate of 200 lbs/Mbdft - see supplemental to application of 3/29/05
PM factor: AP-42 January 1995, Section 13.2.4, Equation 1
Emission factor=k(0.0032)(U/5)^1.3/(M/2)^1.4
Where: U, mean wind speed (mph) = 15 basis: applicant estimate
M, material moisture content (5) = 5 basis: estimate
k, particle size multiplier 1 basis: AP-42
PM10 factor Same as for PM, except for
k, particle size multiplier 0.35 basis: AP-42

Activity: **Shavings Pile Wind Erosion**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/acre-year							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
0.054 Acres	8760				1520	760						4.1E-02	2.0E-02		

Basis for rating: Based on applicant estimate of 260 cu yard pile - see supplemental to application of 3/29/05
Square yards per acre = 4840
Average height assumed to be: 1.5 yards
PM factor: AP-42 October 1998, Section 11.9, Table 11.9-4 - sawdust factor estimated to be twice factor for bark pile
PM10 factor Engineering estimate - 50% of PM factor

Activity: **Shavings Transport from Shavings Truck Dump to Boiler**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/ton							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
10,920 tons/year	8760				0.0037	0.0013						2.0E-02	7.1E-03		

Basis for rating: Applicant estimate of 200 lbs/Mbdft - see supplemental to application of 3/29/05
PM factor: Engineering estimate - assumed to be the same as for shavings drop onto pile
PM10 factor Engineering estimate - assumed to be the same as for shavings drop onto pile

PLUMMER FOREST PRODUCTS
COEUR D'ALENE RESERVATION
TITLE V CRITERIA POLLUTANT EMISSION INVENTORY

Emission Unit: **PLN** **Planer Mill**
Activity: **Planer Operations**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/Mbdft							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
109,200 Mbdft	8760				0.312	0.0312						17.04	1.70		

Basis for rating: Applicant estimate - see 3/29/05 supplement to application
PM factor: CORRIM: Phase I Final Report, Module B, Softwood Lumber - Pacific Northwest Region, June 1, 2004 Review Draft - Prepared by Michael Milota
PM10 factor Engineering estimate - 10% of PM emission factor

PLUMMER FOREST PRODUCTS
COEUR D'ALENE RESERVATION
TITLE V CRITERIA POLLUTANT EMISSION INVENTORY

Emission Unit: **HTR-1 Used Oil-Fired Heater**
Activity: **Used Oil-Fired Heater**
Manufacturer: **Clean Burn**
Model: **4000**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/10^3 gal							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
0.280 MMBtu/hr	8760	5	6.545	19	0.66	0.57	58.8	1	0.04	5.7E-02	0.17	0.01	0	0.52	0.01

Basis for rating: Per supplement to application,
Since exact burner type could not be determined, the highest emission factor from AP-42 was used for each pollutant
CO factor: AP-42 October 1996, Table 1.11-2, small boilers
Lead factor: AP-42 October 1996, Table 1.11-1, small boilers
NOx factor: AP-42 October 1996, Table 1.11-2, small boilers
PM factor: AP-42 October 1996, Table 1.11-1, atomizing burner
PM10 factor AP-42 October 1996, Table 1.11-1, atomizing burner
SO2 factor: AP-42 October 1996, Table 1.11-2, small boilers
VOC factor: AP-42 October 1996, Table 1.11-3, small boilers, TOC

Emission factors converted from lb/103 gal to lb/MMBtu based on heat content of fuel: 140 MMBtu/10^3 gal
Lead content in used oil is: 0.119 % by weight
Ash content in used oil is: 0.01 % by weight
Sulfur content in used oil is: 0.4 % by weight

PLUMMER FOREST PRODUCTS
COEUR D'ALENE RESERVATION
TITLE V CRITERIA POLLUTANT EMISSION INVENTORY

1 Emission Unit: **LY** **Logyard and Plant Traffic**

Maximum Rating	Annual Operating Hours	Emission Factors, lb/VMT							Annual Emissions (tons per year)						
		CO	Lead	NOx	PM	PM10	SO2	VOC	CO	Lead	NOx	PM	PM10	SO2	VOC
15000 VMT[1]	8760				10.9	3.1						81.74	23.30		
8750 VMT[2]	8760				11.5	3.3						50.18	14.30		
8750 VMT[3]	8760				14.6	4.1						63.69	18.16		
												195.61	55.76		

Basis for rating: Applicant estimate - see permit application and 3/29/05 supplement to application

1 Log Trucks	mean weight empty:	15.5 tons	loaded:	46.25	average: 30.875 tons
	no. of annual trips:	30000	distance travelled:	0.5 miles	
2 Log Loading	mean weight empty:	33.333 tons	loaded:	35.833	average: 34.583 tons
	no. of annual trips:	35000	distance travelled:	0.25 miles	
3 Front Loaders	mean weight empty:	51.5 tons	loaded:	66	average: 58.75 tons
	no. of annual trips:	35000	distance travelled:	0.25 miles	

PM factor: AP-42 December 2003, Section 13.2.2, Equation 1a

E=[k*(s/12)^a*(W/3)^b

W = mean vehicle weight (tons)

k = 4.9 empirical constant

a = 0.7 empirical constant

b = 0.45 empirical constant

s = 8.4 surface material silt content (%), average from Table 13.2.2-1

PM10 factor Same as for PM emission factor, except that

k = 1.5 empirical constant

a = 0.9 empirical constant

b = 0.45 empirical constant

PLUMMER FOREST PRODUCTS
COEUR D'ALENE RESERVATION
TITLE V CRITERIA POLLUTANT EMISSION INVENTORY

Emission Unit: **TNK** **Fuel Tanks**

Activity: **Diesel Tank**

Capacity: 8000 gallons
Average throughput: 15000 gallons per month

Assuming tank length is twice diameter, tank dimensions are estimated to be:
Length 17.6
Diameter 8.8

360000

Assume tank is kept between 20% to 80% full
No. of annual turnovers is: 37.5
For PTE, assume annual turnovers is twice estimated actual value, i.e. 75

Since tank is under cover, use tank color: white
and, tank paint condition: good

Assume tank has no breather vents

Activity: **Gas Tank**

Capacity: 200 gallons
Average throughput: 200 gallons per month

Assuming tank diameter is 3 ft, tank dimensions are estimated to be:
Length 3.78
Diameter 3

Assume tank is kept between 20% to 80% full
No. of annual turnovers is: 20
For PTE, assume annual turnovers is twice estimated actual value, i.e. 40

Since tank is under cover, use tank color: white
and, tank paint condition: good

Assume tank has breather vents set at .03 psig (pressure and vacuum)

PLUMMER FOREST PRODUCTS
COEUR D'ALENE RESERVATION
TITLE V HAZARDOUS AIR POLLUTANT EMISSION INVENTORY
Summary of Facility Emissions

Compound	BLR-1 Emissions	BLR-2 Emissions	KLN Emissions	HTR-1 Emissions	Total Annual (tons/yr)
Acetaldehyde	3.82E-01				3.82E-01
Acetophenone	1.47E-06				1.47E-06
Acrolein	1.84E+00				1.84E+00
Benzene	1.93E+00				1.93E+00
bis(2-Ethylhexyl) phthalate (DEHP)	2.16E-05			1.93E-05	4.09E-05
Bromomethane (methyl bromide)	6.90E-03				6.90E-03
2-Butanone (MEK)	2.48E-03				2.48E-03
Carbon tetrachloride	2.07E-02				2.07E-02
Chlorine	3.63E-01				3.63E-01
Chlorobenzene	1.52E-02				1.52E-02
Chloroform	1.29E-02				1.29E-02
Chloromethane (methyl chloride)	1.06E-02				1.06E-02
Dibenzo furans	8.59E-07				8.59E-07
Dibutylphthlate				2.98E-07	2.98E-07
1,4-Dichlorobenzene				7.01E-09	7.01E-09
1,2-Dichloroethane (ethylene dichloride)	1.33E-02				1.33E-02
Dichloromethane (methylene chloride)	1.33E-01				1.33E-01
1,2-Dichloropropane (propylene dichloride)	1.52E-02				1.52E-02
2,4-Dinitrophenol	8.28E-05				8.28E-05
Ethylbenzene	1.43E-02				1.43E-02
Formaldehyde	2.02E+00		2.18E-01		2.24E+00
Hydrogen chloride	8.74E+00			5.78E-01	9.32E+00
Methanol			3.28E+00		3.28E+00
Naphthalene	4.46E-02			1.14E-04	4.47E-02
Pentachlorophenol	2.35E-05				2.35E-05
4-Nitrophenol	5.06E-05				5.06E-05
Phenol	2.35E-02			2.10E-05	2.35E-02
Polychlorinated biphenyls	3.78E-06				3.78E-06
Propionaldehyde	2.81E-02				2.81E-02
Styrene	8.74E-01				8.74E-01
2,3,7,8-Tetrachlorodibenzo-p-dioxins	3.96E-09				3.96E-09
Tetrachloroethene	1.75E-02				1.75E-02
1,1,1-Trichloroethane (methyl chloroform)	1.43E-02				1.43E-02
Trichloroethene	1.38E-02				1.38E-02
Toluene	4.23E-01				4.23E-01
2,4,6-Trichlorophenol	1.01E-05				1.01E-05
Vinyl Chloride	8.28E-03				8.28E-03
o-Xylene	1.15E-02				1.15E-02
POM	1.29E-02			2.29E-04	1.31E-02
Antimony	3.63E-03			3.94E-05	3.67E-03
Arsenic	1.01E-02	2.45E-04		9.64E-04	1.13E-02
Beryllium	5.06E-04	1.84E-04		1.58E-05	7.06E-04
Cadmium	1.89E-03	1.84E-04		1.05E-04	2.17E-03
Chromium (Total)	9.66E-03	1.84E-04		1.66E-03	1.15E-02
Chromium (VI)	1.61E-03				1.61E-03
Cobalt	2.99E-03			4.99E-05	3.04E-03
Lead	2.21E-02	5.52E-04		5.73E-02	8.00E-02
Manganese	7.36E-01	3.68E-04		5.96E-04	7.37E-01
Mercury	1.61E-03	1.84E-04			1.79E-03
Nickel	1.52E-02	1.84E-04		1.40E-03	1.68E-02
Phosphorus				3.15E-04	3.15E-04
Selenium	1.29E-03	9.20E-04			2.21E-03
Highest PTE of single HAP (tons/year):	**8.74**	**0.00**	**3.28**	**0.58**	**9.32**
Sub-Total of all HAPs (tons/year):	**17.80**	**0.00**	**3.49**	**0.64**	**21.94**

PLUMMER FOREST PRODUCTS
COEUR D'ALENE RESERVATION
TITLE V HAZARDOUS AIR POLLUTANT EMISSION INVENTORY
Emission Unit: BLR-1 Hog Fuel Boiler

Production Information

Potential Hours of Operation	8,760 hours/yr
Maximum Heat Input	105.0 MMBtu/hr
Maximum Annual Heat Input	919,800 MMBtu/yr

Compound	Emission Factor[1] (lb/MMBtu)	Emission Factor Rating	Sub-Total Annual (lb/yr)	Total Annual (lb/yr)	Total Annual (tons/yr)
Acetaldehyde	8.30E-04	A		7.63E+02	**3.82E-01**
Acetophenone	3.20E-09	D		2.94E-03	**1.47E-06**
Acrolein	4.00E-03	C		3.68E+03	**1.84E+00**
Benzene	4.20E-03	A		3.86E+03	**1.93E+00**
bis(2-Ethylhexyl) phthalate (DEHP)	4.70E-08	D		4.32E-02	**2.16E-05**
Bromomethane (methyl bromide)	1.50E-05	D		1.38E+01	**6.90E-03**
2-Butanone (MEK)	5.40E-06	D		4.97E+00	**2.48E-03**
Carbon tetrachloride	4.50E-05	D		4.14E+01	**2.07E-02**
Chlorine	7.90E-04	D		7.27E+02	**3.63E-01**
Chlorobenzene	3.30E-05	D		3.04E+01	**1.52E-02**
Chloroform	2.80E-05	D		2.58E+01	**1.29E-02**
Chloromethane (methyl chloride)	2.30E-05	D		2.12E+01	**1.06E-02**
Dibenzo furans				1.72E-03	**8.59E-07**
Heptachlorodibenzo-p-furans	2.40E-10	C	2.21E-04		
Hexachlorodibenzo-p-furans	2.80E-10	C	2.58E-04		
Octachlorodibenzo-p-furans	8.80E-11	C	8.09E-05		
Pentachlorodibenzo-p-furans	4.20E-10	C	3.86E-04		
2,3,7,8-Tetrachlorodibenzo-p-furans	9.00E-11	C	8.28E-05		
Tetrachlorodibenzo-p-furans	7.50E-10	C	6.90E-04		
1,2-Dichloroethane (ethylene dichloride)	2.90E-05	D		2.67E+01	**1.33E-02**
Dichloromethane (methylene chloride)	2.90E-04	D		2.67E+02	**1.33E-01**
1,2-Dichloropropane (propylene dichloride)	3.30E-05	D		3.04E+01	**1.52E-02**
2,4-Dinitrophenol	1.80E-07	C		1.66E-01	**8.28E-05**
Ethylbenzene	3.10E-05	D		2.85E+01	**1.43E-02**
Formaldehyde	4.40E-03	A		4.05E+03	**2.02E+00**
Hydrogen chloride	1.90E-02	C		1.75E+04	**8.74E+00**
Naphthalene	9.70E-05	A		8.92E+01	**4.46E-02**
Pentachlorophenol	5.10E-08	C		4.69E-02	**2.35E-05**
4-Nitrophenol	1.10E-07	C		1.01E-01	**5.06E-05**
Phenol	5.10E-05	C		4.69E+01	**2.35E-02**
Polychlorinated biphenyls				7.57E-03	**3.78E-06**
Decachlorobiphenyl	2.70E-10	D	2.48E-04		
Dichlorobiphenyl	7.40E-10	C	6.81E-04		
Heptachlorobiphenyl	6.60E-11	D	6.07E-05		
Hexachlorobiphenyl	5.50E-10	D	5.06E-04		
Pentachlorobiphenyl	1.20E-09	D	1.10E-03		
Trichlorobiphenyl	2.90E-09	C	2.67E-03		
Tetrachlorobiphenyl	2.50E-09	D	2.30E-03		
Propionaldehyde	6.10E-05	D		5.61E+01	**2.81E-02**
Styrene	1.90E-03	D		1.75E+03	**8.74E-01**
2,3,7,8-Tetrachlorodibenzo-p-dioxins	8.60E-12	C		7.91E-06	**3.96E-09**
Tetrachloroethene	3.80E-05	D		3.50E+01	**1.75E-02**
1,1,1-Trichloroethane (methyl chloroform)	3.10E-05	D		2.85E+01	**1.43E-02**
Trichloroethene	3.00E-05	D		2.76E+01	**1.38E-02**
Toluene	9.20E-04	C		8.46E+02	**4.23E-01**
2,4,6-Trichlorophenol	2.20E-08	C		2.02E-02	**1.01E-05**
Vinyl Chloride	1.80E-05	D		1.66E+01	**8.28E-03**
o-Xylene	2.50E-05	D		2.30E+01	**1.15E-02**

Emission Unit: BLR-1 Hog Fuel Boiler (cont.)

Compound	Emission Factor[1] (lb/MMBtu)		Emission Factor Rating	Sub-Total Annual (lb/yr)	Total Annual (lb/yr)	Total Annual (tons/yr)
POM					2.57E+01	**1.29E-02**
Benzo(a)anthracene	6.50E-08		B	5.98E-02		
Benzo(a)pyrene	2.60E-06		A	2.39E+00		
Benzo(b)fluoranthene	1.00E-07		B	9.20E-02		
Chrysene	3.80E-08		B	3.50E-02		
Benzo(k)fluoranthene	3.60E-08		B	3.31E-02		
Dibenzo(a,h)anthracene	9.10E-09		B	8.37E-03		
Indeno(1,2,3,c,d)pyrene	8.70E-08		B	8.00E-02		
Acenaphthene	9.10E-07		B	8.37E-01		
Fluorene	3.40E-06		A	3.13E+00		
Anthracene	3.00E-06		A	2.76E+00		
Phenanthrene	7.00E-06		B	6.44E+00		
Fluoranthene	1.60E-06		B	1.47E+00		
Pyrene	3.70E-06		A	3.40E+00		
Perylene	5.20E-10		D	4.78E-04		
Benzo(g,h,i)perylene	9.30E-08		B	8.55E-02		
Acenaphthylene	5.00E-06		A	4.60E+00		
Benzo(e)pyrene	2.60E-09		D	2.39E-03		
2-Methylnaphthalene	1.60E-07		D	1.47E-01		
Benzo(j,k)fluoranthene	1.60E-07		D	1.47E-01		
Benzo(b,k)fluoranthene				0.00E+00		
2-Chloronaphthalene	2.40E-09		D	2.21E-03		
Antimony	7.90E-06		C		7.27E+00	**3.63E-03**
Arsenic	2.20E-05		A		2.02E+01	**1.01E-02**
Beryllium	1.10E-06		B		1.01E+00	**5.06E-04**
Cadmium	4.10E-06		A		3.77E+00	**1.89E-03**
Chromium (Total)	2.10E-05		A		1.93E+01	**9.66E-03**
Chromium (VI)	3.50E-06		C		3.22E+00	**1.61E-03**
Cobalt	6.50E-06		C		5.98E+00	**2.99E-03**
Lead	4.80E-05		A		4.42E+01	**2.21E-02**
Manganese	1.60E-03		A		1.47E+03	**7.36E-01**
Mercury	3.50E-06		A		3.22E+00	**1.61E-03**
Nickel	3.30E-05		A		3.04E+01	**1.52E-02**
Selenium	2.80E-06		A		2.58E+00	**1.29E-03**
				Sub-Total of all HAPs (tons/year):		**17.80**

[1] AP-42 September 2003, Tables 1.6-3 and 1.6-4

COEUR D'ALENE RESERVATION
TITLE V HAZARDOUS AIR POLLUTANT EMISSION INVENTORY
Emission Unit: BLR-2, Oil-fired Boiler

Production Information

Potential Hours of Operation	8,760 hours/yr
Maximum Heat Input	14.0 MMBtu/hr
Maximum Annual Heat Input	122,640 MMBtu/yr
Maximum Annual Fuel Usage[1]	876 10^3 gallons

Compound	Emission Factor[2] (lb/103 gal)	Emission Factor Rating	Sub-Total Annual (lb/yr)	Total Annual (lb/yr)	Total Annual (tons/yr)
Arsenic	4.00E+00	E		4.91E-01	**2.45E-04**
Beryllium	3.00E+00	E		3.68E-01	**1.84E-04**
Cadmium	3.00E+00	E		3.68E-01	**1.84E-04**
Chromium	3.00E+00	E		3.68E-01	**1.84E-04**
Lead	9.00E+00	E		1.10E+00	**5.52E-04**
Manganese	6.00E+00	E		7.36E-01	**3.68E-04**
Mercury	3.00E+00	E		3.68E-01	**1.84E-04**
Nickel	3.00E+00	E		3.68E-01	**1.84E-04**
Selenium	1.50E+01	E		1.84E+00	**9.20E-04**
			Sub-Total of all HAPs (tons/year):		**3.0E-03**

[1] Annual usage converted from MMBtu to 10^3 gallons based on heat content of fuel: 140 MMBtu/10^3 gal

[2] AP-42 September 1998, Table 1.3-10

PLUMMER FOREST PRODUCTS
COEUR D'ALENE RESERVATION
TITLE V HAZARDOUS AIR POLLUTANT EMISSION INVENTORY
Emission Unit: KLN - Lumber Drying Kilns

Production Information

Potential Hours of Operation	8,760 hours/yr
Maximum Annual Throughput	109,200 Mbdft

Pollutant	Emission Factor[1] (lb/103 gal)	Emission Factor Rating	Sub-Total Annual (lb/yr)	Total Annual (lb/yr)	Total Annual (tons/yr)
Formaldehyde	4.00E-03	NA		4.37E+02	**2.18E-01**
Methanol	6.00E-02	NA		6.55E+03	**3.28E+00**
		Sub-Total of all HAPs (tons/year):			**3.49**

1. OSU Small-Scale Kiln Study Utilizing Ponderosa Pine, Lodgepole Pine, White Fir and Douglas Fir, Intermountain Forest Association, Michael Milota, OSU 9/29/2000

PLUMMER FOREST PRODUCTS
COEUR D'ALENE RESERVATION
TITLE V HAZARDOUS AIR POLLUTANT EMISSION INVENTORY
Emission Unit: HTR-1 Used Oil-fired Heater

Production Information

Potential Hours of Operation	8,760	hours/yr
Maximum Heat Input	0.280	MMBtu/hr
Maximum Annual Heat Input	2,453	MMBtu/yr
Maximum Annual Fuel Usage[1]	18	10^3 gallons

Compound	Emission Factor[2] (lb/103 gal)	Emission Factor Rating	Sub-Total Annual (lb/yr)	Total Annual (lb/yr)	Total Annual (tons/yr)
Bis(2-Ethylhexyl) phthalate (DEHP)	2.20E-03	D		3.85E-02	**1.93E-05**
1,4-Dichlorobenzene	8.00E-07	D		1.40E-05	**7.01E-09**
Dibutylphthalate	3.40E-05	D		5.96E-04	**2.98E-07**
Hydrogen chloride	6.60E+01	C		1.16E+03	**5.78E-01**
Naphthalene	1.30E-02	D		2.28E-01	**1.14E-04**
Phenol	2.40E-03	D		4.20E-02	**2.10E-05**
POM				4.57E-01	**2.29E-04**
Benzo(a)anthracene	4.00E-03	D	7.01E-02		
Benzo(a)pyrene	4.00E-03	D	7.01E-02		
Phenanthrene	1.10E-02	D	1.93E-01		
Pyrene	7.10E-03	D	1.24E-01		
Antimony	4.50E-03	D		7.88E-02	**3.94E-05**
Arsenic	1.10E-01	D		1.93E+00	**9.64E-04**
Beryllium	1.80E-03	D		3.15E-02	**1.58E-05**
Cadmium	1.20E-02	D		2.10E-01	**1.05E-04**
Chromium (Total)	1.90E-01	D		3.33E+00	**1.66E-03**
Cobalt	5.70E-03	D		9.99E-02	**4.99E-05**
Lead	6.55E+00	D		1.15E+02	**5.73E-02**
Manganese	6.80E-02	D		1.19E+00	**5.96E-04**
Nickel	1.60E-01	D		2.80E+00	**1.40E-03**
Phosphorus	3.60E-02	D		6.31E-01	**3.15E-04**
			Sub-Total of all HAPs (tons/year):		**0.64**

[1] Annual usage converted from MMBtu to 10^3 gallons based on heat content of fuel: 140 MMBtu/10^3 gal

[2] AP-42 October 1996, Tables 1.11-3, 1.11-4 and 1.11-5

Since exact burner type could not be determined, the highest emission factor from AP-42 was used for each pollutant

Chlorine content in used oil is: 1 % by weight